**Environmental Resources Management**

399 Boylston Street, 6th Floor
Boston, MA 02116
(617) 646-7800
(617) 267-6447 (fax)

http://www.erm.com

20 May 2011
Reference: 0131386

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Waste Site Cleanup
205B Lowell Street
Wilmington, MA 01887

Re: Errata Sheet for 13 May 2011 Remedy Operation Status Submittal
Former Raytheon Facility
Wayland, Massachusetts
Release Tracking Numbers 3-13302 and 3-22408, Tier IB Permit Nos. 133939 and W045278

Dear Sir or Madam:

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) has prepared this letter to accompany a Form BWSC-126 related to the recent submittal of a Remedy Operation Status report for the above referenced site. The electronic file uploaded to eDEP at the time of submission has been found to be missing parts of the appendices included in the physical copies of the document. The version attached herein is complete as intended.

If you have any questions or comments in regard to this submittal please contact the undersigned at (617) 646-7800.

Sincerely,

John C. Drobinski, P.G., LSP
*Principal–in-Charge*

Jason D. Flattery, P.E.
*Project Manager*

**Environmental Resources Management**

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13 May 2011
Reference: 0131386

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Waste Site Cleanup
205B Lowell Street
Wilmington, MA 01887

Re: Remedy Operation Status Submittal
November 2010 through April 2011
Former Raytheon Facility
Wayland, Massachusetts
Release Tracking Numbers 3-13302 and 3-22408, Tier IB Permit Nos. 133939 and W045278

Dear Sir or Madam:

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) has prepared this Remedy Operation Status (ROS) Submittal for the Former Raytheon Facility located at 430 Boston Post Road in Wayland, Massachusetts (Site; Figure 1). This report covers the period from 1 November 2010 through 8 April 2011 to satisfy the requirements of the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0893. The Massachusetts Department of Environmental Protection (MassDEP) ROS transmittal form (BWSC 108) and Remedial Monitoring Reports (RMRs) were filed electronically via eDEP; copies of the forms are included in Appendix A.

This report will discuss groundwater remediation and monitoring activities that have been conducted at the Site since the submission of the November 2010 ROS submittal.

## *BACKGROUND*

This submittal incorporates the ongoing bioremediation activities in the Northern Area of the Site (Figure 2) with the ongoing Southern Area in situ chemical oxidation (ISCO) program. Northern Area Response

Actions were formerly tracked under Release Tracking Number (RTN) 3-22408. These RTNs were linked under 3-13302 in a letter submitted to MassDEP on 9 June 2009.

*RTN 3-13302*

A Phase IV Completion Report was submitted for RTN 3-13302 on 24 November 2004 to MassDEP for portions of the approximately 83-acre property (Figure 2). The Phase IV Completion Report documented wetland remediation activities conducted from October 2003 through October 2004, and groundwater remediation activities conducted from May through July 2004.

Since completion of Phase IV activities, ROS reports were submitted to MassDEP summarizing the following periods:

- December 2004 through April 2005, dated 20 May 2005;
- May 2005 through November 2005, dated 14 November 2005;
- November 2005 through May 2006, dated 19 May 2006;
- May 2006 through November 2006, dated 20 November 2006;
- November 2006 through May 2007, dated 17 May 2007;
- June 2007 through October 2007, dated 15 November 2007;
- November 2007 through April 2008, dated 29 May 2008;
- May 2008 through October 2008, dated 9 December 2008;
- November 2008 through April 2009, dated 9 June 2009;
- May 2009 through October 2008, dated 16 November 2009;
- November 2009 through April 2010, dated 20 May 2010; and
- May 2010 through October 2010, dated 8 November 2010.

*RTN 3-22408*

A Phase IV Completion Report was submitted for RTN 3-22408 on 23 December 2008 for the chlorinated volatile organic compound (CVOC) impacts to Northern Area soil and groundwater. Beginning with the 9 June 2009 report, activities formerly conducted under this RTN have been summarized jointly with those under RTN 3-13302 in the ROS submittals described above.

## *EASTERN AREA WELL INSTALLATION AND SAMPLING*

Installation of four monitoring wells (designated MW-501M, MW-501B, MW-502M, and MW-502B) began on 24 November 2010 and was completed on 29 November 2010. The depths and locations of the wells were selected based on historical data collected by ERM (Figure 3). Boring logs and well construction details for these wells are included in Appendix B. The drilling program utilized a combination of hollow stem auger, mud rotary, rock coring, and roller bit drilling methods in order to achieve the desired depths while generating a minimal volume of soil cuttings. Soil cuttings were collected and secured in properly labeled drums to await the results of analytical samples. Waste characterization samples were analyzed for volatile organic compounds (VOCs) via United States Environmental Protection Agency (U.S. EPA) Method 8260B by Alpha Analytical, Inc. of Westborough, Massachusetts (Alpha). The analytical data from the waste characterization samples are summarized in Table 1, and corresponding laboratory reports are included in Appendix C. Trichloroethene (TCE) was the only compound detected above method detection limits, with a concentration of 3.3 micrograms per liter (µg/L). While TCE is a compound related to Site RTNs, this value is below the GW-1 standard of 5 µg/L. Given these results, the material was deemed appropriate for spreading in the wellhead area. The wells were developed using the standard over pumping method. Water generated during this activity was drummed and allowed to settle prior to returning to the wells. Small amounts of sediment were created during this activity, which were then spread near the wellheads (where appropriate, as with the drill cuttings).

Groundwater samples were collected from these wells on 14 December 2010 and sent to Alpha for VOCs analyses by U.S. EPA Method 8260B. The only analyte detected in the samples was TCE, at a concentration of 4.0 µg/L at MW-502M. Table 2 presents a summary of these data, and Appendix C contains the corresponding analytical laboratory reports.

## *NORTHERN AREA BIOREMEDIATION ACTIVITIES*

Northern Area bioremediation response actions were conducted by Innovative Engineering Solutions, Inc. of Walpole, Massachusetts (IESI) during this reporting period. Appendix D includes a memorandum prepared by IESI to document their activities.

### *Extraction Well Installation*

In December 2010, three new extraction wells (REW-3, REW-4, and REW-5) were installed via sonic drilling methods performed by D.L. Maher Drilling of Reading, Massachusetts. Appendix D contains the corresponding boring logs. Each well is comprised of 4-inch diameter PVC well casing with v-cut 0.010 inch PVC slot screen. The screened interval of each well runs from 15 to 45 feet below ground surface. Installation of these wells generated drums of drill cuttings, samples from which were collected for laboratory analysis of VOCs by U.S. EPA Method 8260B by Groundwater Analytical of Buzzards Bay, Massachusetts (Groundwater Analytical). The samples did not contain any detectable concentrations of VOCs and the soil in the drums was deemed appropriate for spreading on ground surface near the well locations. The wells will be developed during the spring of 2011.

### *Recirculation System Operation*

IESI's enhanced anaerobic dechlorination groundwater circulation system program began in the fall of 2010, and operated for 68 days. Approximately 263,500 gallons of groundwater and additives (vegetable oil, alcohol, pH buffers, and inorganic minerals) were recirculated by extracting groundwater from wells REW-1 and REW-2, and injecting into wells RIW-1, RIW-2, and RIW-3. Recirculation system activities were

suspended during the winter months (December to March) and resumed on March 17, 2011.

IESI collected several groundwater samples during this reporting period to monitor the performance of the recirculation system. These analyses and results are summarized in the memorandum in Appendix D.

***Well Development***

In order to evaluate the potential for use of the existing Northern Area injection well network in expanding the recirculation system, IESI re-developed 13 of the IW wells and 5 original recirculation wells (RIW-1, RIW-2, RIW-3, REW-1, and REW-2) in December of 2010. The wells were developed using a surging-type Waterra pump. Groundwater extracted from the wells was stored in a 500-gallon tank to allow silt to settle out; settled groundwater was re-injected via the injection gallery. Due to freezing temperatures at the site, the silt is still containerized. Samples of the silt will be collected for lab analyses in the spring of 2011 to determine the most appropriate disposal option.

***Upcoming Northern Area Activities***

As detailed in the IESI memorandum in Appendix D, further expansion of the recirculation system is scheduled for 2011. This proposed expansion includes a limited groundwater investigation, the installation of an injection well chamber, and the shallow trenching of the piping network currently installed on grade. These activities are planned for areas inside the 100-foot buffer zone to Bordering Vegetated Wetland as shown in the figures in Appendix D. A Notice of Intent under the Wetlands Protection Act was filed with MassDEP and the Town of Wayland Conservation Commission on 16 March 2011.

Injection events will continue to be conducted periodically via the recirculation system. These injections may include bioaugmentation to further improve remediation performance.

## *SOUTHERN AREA VERTICAL PROFILING*

A vertical profiling program was conducted in the main parking lot in the Southern Area to update the conceptual site model for those areas downgradient of the main building.

Vertical profiling is a groundwater assessment tool that uses a direct-push drill rig to advance a Waterloo APS tip into the ground. As the tip is driven downward, spring water is injected into the formation to create a real time log of depth versus relative hydraulic conductivity. Additionally, the tool can be stopped and the flow through the tip reversed to collect a groundwater sample using low-flow sampling methods. Together, these pieces of data can be used to make inferences about the soil type, groundwater flow directions and gradients, and groundwater quality.

Vertical profiling activities commenced on 8 November 2010 with a direct-push drill rig and two Waterloo APS set-ups. The program was completed on 23 December and included the collection of multiple groundwater samples from the 34 locations shown on Figure 4. In total, 291 groundwater samples were collected and submitted to Alpha for VOCs analysis by U.S. EPA Method 8260B. The results of these analyses are summarized in Table 3; corresponding laboratory reports are included in Appendix C. The logs depicting results of the vertical profiling program are compiled in Appendix E.

### *Vertical Profiling Results*

The geologic strata encountered during the program were consistent with those identified during previous investigations in the Southern Area. Groundwater flows west toward the river with a component of flow entering the site across the southern property boundary.

CVOCs previously identified at the Site were detected in the profiler samples. These concentrations are similar in magnitude to those identified during regular analyses from the monitoring wells in the subject area. Analyses of groundwater samples collected from previously targeted locations immediately downgradient of the Main Building did

not yield any detections of CVOCs. This result confirms the success of previous ISCO programs in these areas.

The gasoline oxygenates, methyl tert-butyl ether (MTBE) and tert-amyl methyl ether (TAME), were again detected in Southern Area groundwater. These compounds were likely released by the gas stations along Boston Post Road and were the focus of a Downgradient Property Status Opinion submitted to MassDEP in November 2007. As a result of the DPS Opinion, MassDEP opened RTN 3-27651 to track this release separately from those originating at the Site. The December 2010 profiler program has shown that MTBE is still present across the Southern Area and that the MTBE detections are a good indicator of the extent to which the Southern Area is impacted by groundwater migrating onto the property.

## *SOUTHERN AREA MONITORING WELL DECOMMISSIONING*

In preparation for the upcoming redevelopment of the Site by the property owner, Raytheon will need to decommission 97 monitoring wells in the Southern Area. Given the scale of the redevelopment project, it has been decided that attempting to protect the current monitoring well network would likely be unsuccessful. Instead, the wells will be decommissioned in accordance with the MassDEP Standard Reference for Monitoring Wells and a new monitoring well network will be established after the site work for the redevelopment is complete. It is anticipated that the replacement wells will be installed in 2012 or within a reasonable period following completion of construction activities. In the interim, the remaining Southern Area wells (those outside the redevelopment area, including the new Eastern Area wells and the wells on Russell's Garden Center property), will be monitored. The network of monitoring wells will be installed based on current and historical Site data. The wells to be decommissioned are listed in Table 5.

## *SENTINEL WELL MONITORING*

In 2009, Raytheon installed five sentinel monitoring wells on the Town of Wayland Cow Common Conservation Area as part of a voluntary

Supplemental Environmental Project (SEP). In addition to the installation of the five wells, the SEP included an agreement to conduct semi-annual monitoring of VOCs concentrations in the wells through December 2011. The locations of the sentinel monitoring wells are shown on Figure 5.

Groundwater samples were collected on 6 April 2011 and submitted to Alpha for VOCs analysis by U.S. EPA Method 8260B. These data are summarized on Table 6. The samples from wells SEN-1M, SEN-2M, SEN-2D and SEN-3 did not contain any detectable concentrations of VOCs. The sample from SEN-1D contained a concentration of 1.3 µg/L of cDCE. While cDCE is a compound related to Site RTNs, this value is well below the GW-1 standard of 70 µg/L and consistent with the results of the previous sampling round. The next sampling round is scheduled for fall 2011.

## *SITE-WIDE MONITORING DATA*

Groundwater monitoring activities were conducted in the Northern and Southern Areas of the Site to determine groundwater flow direction and gradient and to monitor performance of the ongoing remedial programs.

### *Groundwater Gauging*

ERM conducted a Site-wide groundwater elevation monitoring survey on 4 April 2011 (Table 7). The upper and lower potentiometric surface maps for the April 2011 gauging event are presented in Figures 6a and 6b, respectively. Groundwater flow direction and gradient for both of the potentiometric surfaces are consistent with historical data, with the exception of the data in the vicinity of the active recirculation system in the Northern Area. When operating, the recirculation system is designed to influence the hydraulic gradients in that area to improve the performance of the bioremediation program.

### *Northern Area Groundwater Monitoring Activities*

A groundwater quality monitoring event in the Northern Area was conducted in April 2011.

Groundwater monitoring activities included:

- Collection of groundwater samples for laboratory analyses; and/or
- Field measurement of groundwater geochemical parameters, including temperature, conductivity, pH, dissolved oxygen concentration, and oxidation-reduction potential (ORP).

Geochemical parameters were monitored during the April 2011 quarterly monitoring round (Table 8a).

Groundwater samples from the Northern Area were submitted to Alpha for one or more of the following compounds in April 2011, to fulfill MCP regulatory requirements: CVOCs by U.S. EPA Method 8260B (only chlorinated compounds reported); and/or 1,4-dioxane by U.S. EPA Method 8270SIM.

Table 9a presents a summary of analytical data for each of the Northern Area wells monitored during this reporting period. Figure 7 presents a summary of CVOC concentrations in the Northern Area based on the April 2011 sampling program.

The analytical data collected in April from Northern Area monitoring locations are consistent with recent trends identified since the start of the bioremediation program.

***Southern Area Groundwater Monitoring Activities***

Quarterly monitoring activities were conducted in March and April 2011, using sampling methods similar to those described above for the Northern Area. Samples collected from Southern Area wells were submitted to Alpha for one or more of the following analyses: CVOCs by U.S. EPA Method 8260B (only chlorinated compounds reported); 1,4-dioxane by U.S. EPA Method 8270-SIM; and/or permanganate by a colorimetric method (conducted by ERM).

Geochemical parameters were recorded for groundwater samples (Table 8b), except where samples exhibited characteristics of the presence of

permanganate (because the water quality instrumentation would be damaged by exposure to that compound).

In March and April 2011, samples were collected to monitor the presence and distribution of permanganate over time. Analytical data and permanganate data from Southern Area monitoring wells are presented in Table 9b. Additionally, April 2011 TCE concentrations in the Southern Area are shown on Figure 8. Corresponding laboratory analytical reports are presented in Appendix C.

In general, CVOC concentrations observed in the Southern Area during this reporting period are consistent with trends observed since the commencement of the ISCO program in 2004 and continue to provide positive indications that the injections conducted in 2008 are effectively treating the targeted areas. The areal extent of residual permanganate continues to decrease as it migrates through the treatment areas and is consumed by compounds in the subsurface.

***REMEDY OPERATING STATUS OPINION***

See BWSC Form 108 in Appendix A.

If you have any questions or comments in regard to this submittal please contact the undersigned at (617) 646-7800.

Sincerely,

John C. Drobinski, P.G., LSP
*Principal–in-Charge*

Jason D. Flattery, P.E.
*Project Manager*

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| Appendix A | BWSC 108 Form and RMR (copies) |
| Appendix B | Eastern Area Wells Boring Logs |
| Appendix C | Laboratory Analytical Data Reports (on CD) |
| Appendix D | IESI Memo |
| Appendix E | Southern Area Vertical Profiling Logs |

cc: Louis Burkhardt, Raytheon
Jonathan Hone, Raytheon
Benson Gould, CMG
Brian Monahan, Town of Wayland Conservation Commission
Anthony DeLuca, Koffler Group
Richard Gass, Wayland Meadows
Nancy Roberts, Roberts Consulting
Sami Fam, IESI
Public Repositories (2)

*Tables*

**Table 1**
**Eastern Area Wells Waste Characterization**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | IDW-501-502<br>6-Dec-10 |
|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | |
| 1,1,1,2-Tetrachloroethane | | 5 | *< 1.0* |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* |
| 1,1,2,2-Tetrachloroethane | | 2 | *< 1.0* |
| 1,1,2-Trichloroethane | | 5 | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* |
| 1,2,4-Trichlorobenzene | | 70 | *< 2.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* |
| 1,2-Dichloroethane | | 5 | *< 1.0* |
| 1,2-Dichloropropane | | 5 | *< 1.0* |
| 1,3-Dichlorobenzene | | 40 | *< 1.0* |
| 1,3-Dichloropropane | | NS | *< 2.0* |
| 1,4-Dichlorobenzene | | 5 | *< 1.0* |
| 4-Chlorotoluene | | NS | *< 2.0* |
| Bromodichloromethane | | 3 | *< 1.0* |
| Bromoform | | 4 | *< 2.0* |
| Carbon tetrachloride | | 5 | *< 1.0* |
| Chlorobenzene | | 100 | *< 1.0* |
| Chloroethane | | NS | *< 2.0* |
| Chloroform | | 70 | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* |
| cis-1,3-Dichloropropene | | 0 4 | *< 0.50* |
| Dibromochloromethane | | 2 | *< 1.0* |
| Ethylene dibromide | | 0 02 | *< 2.0* |
| Freon 12 | | NS | *< 2.0* |
| Hexachlorobutadiene | | 0 6 | *< 0.60* |
| Methyl chloride | | NS | *< 2.0* |
| Methylene chloride | | 5 | *< 2.0* |
| o-Chlorotoluene | | NS | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* |
| trans-1,3-Dichloropropene | | 0 4 | *< 0.50* |
| Trichloroethene | | 5 | 3 3 |
| Vinyl chloride | | 2 | *< 1.0* |

Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 2**
**Eastern Area Wells Analytical Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | MW-501B<br>14-Dec-10 | MW-501M<br>14-Dec-10 | MW-501M<br>14-Dec-10<br>DUP | MW-502B<br>14-Dec-10 | MW-502M<br>14-Dec-10 |
|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | |
| 1,1,1,2-Tetrachloroethane | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1,2,2-Tetrachloroethane | | 2 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1,2-Trichloroethane | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2,4-Trichlorobenzene | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichloroethane | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichloropropane | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,3-Dichlorobenzene | | 40 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,3-Dichloropropane | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| 1,4-Dichlorobenzene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 4-Chlorotoluene | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Bromodichloromethane | | 3 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Bromoform | | 4 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Carbon tetrachloride | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Chlorobenzene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Chloroethane | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Cis-1,3-Dichloropropene | | 0 4 | *< 0.50* | *< 0.50* | *< 0.50* | *< 0.50* | *< 0.50* |
| Dibromochloromethane | | 2 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Ethylene dibromide | | 0 02 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Freon 12 | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Hexachlorobutadiene | | 0 6 | *< 0.60* | *< 0.60* | *< 0.60* | *< 0.60* | *< 0.60* |
| Methyl chloride | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Methylene chloride | | 5 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| o-Chlorotoluene | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,3-Dichloropropene | | 0 4 | *< 0.50* | *< 0.50* | *< 0.50* | *< 0.50* | *< 0.50* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | **4.0** |
| Vinyl chloride | | 2 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |

Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
- = Not analyzed
mg/L = Milligrams per liter
µg/L = Micrograms per liter
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-101<br>8-Nov-10<br><br>20.20 | APS-101<br>8-Nov-10<br><br>25.00 | APS-101<br>8-Nov-10<br><br>38.50 | APS-101<br>8-Nov-10<br><br>46.35 | APS-101<br>8-Nov-10<br><br>51.60 | APS-101<br>8-Nov-10<br><br>56.50 | APS-101<br>8-Nov-10<br><br>61.60 | APS-101<br>9-Nov-10<br><br>65.40 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | 2.2 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 5.0 | < 10 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | 7.2 | 8.6 | 3.1 | < 1.0 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 5.0 | < 10 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 5.0 | < 10 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | 2.9 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 5.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | **200** | **320** | **56** | 2.4 | < 1.0 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40.0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| | **Sample I.D.** | **MCP Std** | **APS-102** | **APS-102** | **APS-102** | **APS-102** | **APS-102** | **APS-102** | **APS-102** | **APS-102** | **APS-102** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Date Sampled** | **Method 1** | **8-Nov-10** | **8-Nov-10** | **8-Nov-10** | **8-Nov-10** | **8-Nov-10** | **8-Nov-10** | **9-Nov-10** | **9-Nov-10** | **9-Nov-10** |
| | **Comments** | **GW 1** | | | | | | | | | |
| **Parameter** | **Depth** (ft) | | **20.00** | **25.00** | **30.00** | **37.25** | **42.34** | **49.30** | **66.40** | **71.10** | **75.60** |
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 3 2 | 33 | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 2.5* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 2 1 | 4 1 | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 2.5* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 5.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 2.5* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 2.5* | 2 3 | 4 9 | 22 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 15 | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 5.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | 2 3 | 2 0 | *< 1.0* | *< 1.0* | *< 2.5* | *< 1.0* | 2 2 | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 2.5* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | 1 3 | 2 4 | 3 0 | **24** | **150** | **28** | **48** | **57** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-103<br>9-Nov-10<br><br>23.80 | APS-103<br>9-Nov-10<br><br>39.10 | APS-103<br>9-Nov-10<br><br>69.00 |
|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | 2 4 | 1 2 | 2 0 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | 1 1 | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | **5.4** | **11** | 2 0 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-104<br>9-Nov-10<br><br>20.00 | APS-104<br>9-Nov-10<br><br>25.00 | APS-104<br>9-Nov-10<br><br>30.00 | APS-104<br>9-Nov-10<br><br>35.00 | APS-104<br>10-Nov-10<br><br>40.00 | APS-104<br>10-Nov-10<br><br>43.00 | APS-104<br>10-Nov-10<br><br>48.00 | APS-104<br>10-Nov-10<br><br>63.50 | APS-104<br>10-Nov-10<br><br>68.10 | APS-104<br>10-Nov-10<br><br>72.30 | APS-104<br>10-Nov-10<br><br>77.20 | APS-104<br>10-Nov-10<br><br>82.10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 20 | 2 8 | 12 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | 2 0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 5.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | 1 2 | 32 | 14 | 10 | 1 1 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 6 5 | 9 4 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 5.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | < 1.0 | < 1.0 | 1 8 | 4 6 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 | < 1.0 | < 1.0 | 1 4 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | **88** | **28** | **19** | **60** | **120** | **98** | 4 0 | < 1.0 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-105<br>9-Nov-10<br><br>20.00 | APS-105<br>9-Nov-10<br><br>25.00 | APS-105<br>9-Nov-10<br><br>30.00 | APS-105<br>10-Nov-10<br><br>40.00 | APS-105<br>10-Nov-10<br><br>46.80 | APS-105<br>10-Nov-10<br><br>53.20 | APS-105<br>10-Nov-10<br><br>58.50 | APS-105<br>10-Nov-10<br><br>77.00 | APS-105<br>10-Nov-10<br><br>86.40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 2 2 | 5 6 | 6 8 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 0 | 2 0 | 2 2 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 5 3 | 6 2 | 3 5 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 4.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | 4 4 | 1 9 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | **110** | 14 | 5 5 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | **44** | < 4.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | 1 5 | 1 4 | 1 2 | < 1.0 | < 1.0 | < 2.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 2 2 | 1 0 | 2 4 | **6.8** | **68** | **110** | **80** | < 1.0 | 1 4 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-106<br>11-Nov-10<br><br>20.00 | APS-106<br>11-Nov-10<br><br>35.00 | APS-106<br>11-Nov-10<br><br>41.00 | APS-106<br>11-Nov-10<br><br>46.00 | APS-106<br>11-Nov-10<br><br>51.30 | APS-106<br>11-Nov-10<br><br>70.30 | APS-106<br>11-Nov-10<br><br>76.60 |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 1 2 | < 1.0 | < 1.0 | < 2.5 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2 4 | < 1.0 | < 2.5 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 4 1 | < 1.0 | < 2.5 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 5.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 5 4 | 8 0 |
| Methyl tert butyl ether | | 70 | < 2.0 | 34 | 28 | **150** | 32 | < 2.0 | < 5.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | 7 2 | < 2.0 | < 2.0 | < 5.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.5 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | 1 8 | 3 1 | **36** | **80** | **130** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-107<br>10-Nov-10<br><br>20.00 | APS-107<br>11-Nov-10<br><br>40.00 | APS-107<br>11-Nov-10<br><br>45.00 | APS-107<br>11-Nov-10<br><br>50.00 | APS-107<br>11-Nov-10<br><br>55.00 | APS-107<br>11-Nov-10<br><br>60.00 | APS-107<br>11-Nov-10<br><br>81.70 | APS-107<br>11-Nov-10<br><br>89.80 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | 1 9 | 2 7 | 1 1 | 3 2 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | 1 5 | 2 5 | 1 9 | 6 3 | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | 1 1 | 1 6 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1 2 | 2 0 | 1 4 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | **77** | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 14 | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | 2 5 | 3 3 | 1 4 | **54** | *< 1.0* | *< 1.0* |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-108<br>11-Nov-10<br><br>30.00 | APS-108<br>12-Nov-10<br><br>40.00 | APS-108<br>12-Nov-10<br><br>45.00 | APS-108<br>12-Nov-10<br><br>62.00 | APS-108<br>12-Nov-10<br><br>65.80 |
|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | 47 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 4.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 4.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 4.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 8.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 4.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 4.0* | 6 6 | 2 1 |
| Methyl tert butyl ether | | 70 | 4 0 | *< 2.0* | 11 | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 8.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 4.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 4.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | **240** | **66** | **8.4** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-109<br>11-Nov-10<br><br>30.00 | APS-109<br>11-Nov-10<br><br>35.80 | APS-109<br>12-Nov-10<br><br>54.00 | APS-109<br>12-Nov-10<br><br>58.80 | APS-109<br>12-Nov-10<br><br>63.80 | APS-109<br>12-Nov-10<br><br>68.60 |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | 12 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | 1 2 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | 6 6 | *< 1.0* | *< 1.0* | *< 1.0* |
| Methyl tert butyl ether | | 70 | *< 2.0* | 3 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | **52** | **6.6** | *< 1.0* | *< 1.0* | *< 1.0* |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-110<br>12-Nov-10<br><br>30.00 | APS-110<br>12-Nov-10<br><br>41.00 | APS-110<br>12-Nov-10<br><br>45.80 | APS-110<br>15-Nov-10<br><br>59.80 | APS-110<br>15-Nov-10<br><br>65.00 | APS-110<br>15-Nov-10<br><br>69.80 | APS-110<br>15-Nov-10<br><br>74.00 |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | 2.1 | 6.1 | 1.4 | < 1.0 | 1.7 | 6.7 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | 1.3 | 1.4 | < 1.0 | < 1.0 | 3.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 2.8 | **16** | **50** | **10** | 3.3 | **26** | **24** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40.0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-111<br>12-Nov-10<br><br>20.00 | APS-111<br>12-Nov-10<br><br>25.00 | APS-111<br>12-Nov-10<br><br>35.00 | APS-111<br>12-Nov-10<br><br>40.00 | APS-111<br>12-Nov-10<br><br>45.00 | APS-111<br>15-Nov-10<br><br>49.00 | APS-111<br>15-Nov-10<br><br>54.60 | APS-111<br>15-Nov-10<br><br>63.75 | APS-111<br>15-Nov-10<br><br>71.00 | APS-111<br>15-Nov-10<br><br>82.40 | APS-111<br>15-Nov-10<br><br>86.60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 1 1 | < 1.0 | < 1.0 | < 1.0 | 2 3 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2 3 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 2 | < 1.0 | **9.4** | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 4 | 1 9 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 2 6 | < 2.0 | 23 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 4 4 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | 1 6 | 1 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 3 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 1 6 | 1 2 | < 1.0 | 3 9 | < 1.0 | 1 0 | 1 2 | **110** | 3 9 | < 1.0 | 1 9 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-112<br>15-Nov-10<br><br>29.60 | APS-112<br>15-Nov-10<br><br>40.00 | APS-112<br>15-Nov-10<br><br>45.00 | APS-112<br>15-Nov-10<br><br>49.10 | APS-112<br>15-Nov-10<br><br>69.20 | APS-112<br>16-Nov-10<br><br>74.10 |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | 1 9 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | 4 4 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | 1 4 | *< 1.0* | **15** | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | 2 5 | 19 | 14 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | 8 8 | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | 2 2 | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | 1 0 | *< 1.0* | *< 1.0* | 3 0 | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | 2 1 | **11** | *< 1.0* | **210** | **57** | **98** |

Notes
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NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-113<br>15-Nov-10<br><br>20.00 | APS-113<br>15-Nov-10<br><br>29.50 | APS-113<br>15-Nov-10<br><br>35.00 | APS-113<br>15-Nov-10<br><br>40.00 | APS-113<br>16-Nov-10<br><br>44.80 | APS-113<br>16-Nov-10<br><br>50.10 | APS-113<br>16-Nov-10<br><br>55.00 |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 3 2 |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1 2 | 2 1 |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 2 8 |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | 1 3 | 1 2 | 1 7 | 1 3 | 1 9 | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | 1 5 | 1 6 | 1 2 | 3 0 | 2 4 | 1 3 | **18** |

Notes
< = Not detected at reported detection limit
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NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-114<br>16-Nov-10<br><br>20.00 | APS-114<br>16-Nov-10<br><br>25.00 | APS-114<br>16-Nov-10<br><br>30.00 | APS-114<br>16-Nov-10<br><br>35.00 | APS-114<br>16-Nov-10<br><br>40.00 | APS-114<br>16-Nov-10<br><br>45.00 | APS-114<br>16-Nov-10<br><br>50.00 | APS-114<br>16-Nov-10<br><br>55.00 | APS-114<br>16-Nov-10<br><br>60.00 | APS-114<br>17-Nov-10<br><br>78.80 | APS-114<br>17-Nov-10<br><br>84.10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 9 0 | 2 8 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | **12** | 3 2 | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 2 7 | *< 1.0* | *< 1.0* | *< 1.0* |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | 9 7 | 3 0 | 52 | 40 | 2 0 | 66 | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 12 | 9 6 | *< 2.0* | 14 | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | **12** | **22** | *< 1.0* | 1 3 |

Notes
< = Not detected at reported detection limit
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NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-115<br>16-Nov-10<br><br>20.00 | APS-115<br>16-Nov-10<br><br>25.20 | APS-115<br>16-Nov-10<br><br>30.10 | APS-115<br>16-Nov-10<br><br>38.80 | APS-115<br>16-Nov-10<br><br>43.50 | APS-115<br>16-Nov-10<br><br>48.40 | APS-115<br>16-Nov-10<br><br>52.30 | APS-115<br>16-Nov-10<br><br>79.40 | APS-115<br>17-Nov-10<br><br>84.80 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 1 2 | 3 8 | 5 4 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 5 2 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 2 | 2 7 | **10** | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 5 | 8 3 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | 18 | 9 4 | 37 | 3 8 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 7 6 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | 3 9 | **13** | **22** | **80** | **71** | 1 4 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-116<br>17-Nov-10<br><br>30.00 | APS-116<br>17-Nov-10<br><br>35.00 | APS-116<br>17-Nov-10<br><br>40.00 | APS-116<br>17-Nov-10<br><br>45.00 | APS-116<br>17-Nov-10<br><br>50.00 | APS-116<br>17-Nov-10<br><br>70.00 | APS-116<br>18-Nov-10<br><br>75.00 | APS-116<br>18-Nov-10<br><br>80.00 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | 20 | < 1.0 | 14 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 4 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | 1 5 | < 1.0 | 1 4 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | 2 2 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | 6 2 | < 1.0 | 4 8 | 4 3 | 13 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | **160** | < 2.0 | 32 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | 17 | < 2.0 | 5 6 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | 1 6 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 1 1 | < 1.0 | **110** | **45** | **80** | **20** | **75** | **51** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-117<br>17-Nov-10<br><br>25.10 | APS-117<br>17-Nov-10<br><br>29.50 | APS-117<br>17-Nov-10<br><br>34.50 | APS-117<br>17-Nov-10<br><br>42.60 | APS-117<br>17-Nov-10<br><br>48.00 | APS-117<br>17-Nov-10<br><br>52.80 | APS-117<br>17-Nov-10<br><br>57.90 | APS-117<br>17-Nov-10<br><br>72.80 | APS-117<br>18-Nov-10<br><br>82.80 | APS-117<br>18-Nov-10<br><br>87.80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | 1 8 | < 1.0 | 12 | 3 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | 1 2 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | 1 4 | 1 1 | < 1.0 | 3 7 | 9 7 | 8 4 | 1 1 | < 1.0 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | **78** | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | 7 1 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | 1 5 | < 1.0 | 1 2 | < 1.0 | < 1.0 | 1 2 | 1 2 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | **17** | **23** | **72** | **21** | **53** | **61** | 2 0 | 1 3 | 1 2 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-118<br>18-Nov-10<br><br>30.00 | APS-118<br>18-Nov-10<br><br>35.00 | APS-118<br>18-Nov-10<br><br>39.50 | APS-118<br>18-Nov-10<br><br>45.00 | APS-118<br>18-Nov-10<br><br>64.40 | APS-118<br>18-Nov-10<br><br>70.00 | APS-118<br>19-Nov-10<br><br>75.00 |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 24 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | 1 5 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 5 3 | 2 8 | 18 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 7 | **5.0** | 1 8 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 1 |
| Trichloroethene | | 5 | < 1.0 | 1 2 | < 1.0 | < 1.0 | **50** | **59** | **58** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-119<br>18-Nov-10<br><br>19.90 | APS-119<br>18-Nov-10<br><br>25.10 | APS-119<br>18-Nov-10<br><br>30.10 | APS-119<br>18-Nov-10<br><br>35.00 | APS-119<br>18-Nov-10<br><br>40.00 | APS-119<br>18-Nov-10<br><br>44.80 | APS-119<br>18-Nov-10<br><br>50.00 | APS-119<br>18-Nov-10<br><br>54.60 | APS-119<br>18-Nov-10<br><br>60.10 | APS-119<br>18-Nov-10<br><br>63.70 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | 2 9 | 3 7 | 4 6 | *< 1.0* | 2 3 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | 1 1 | 2 1 | 2 8 | 1 2 | 2 5 | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 5 8 | 3 6 | 5 4 | 5 1 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 2 2 | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | 1 6 | 1 6 | 1 0 | 1 0 | 1 2 | 1 6 | 1 7 | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | 2 6 | **18** | **48** | **57** | **55** | **66** | **8.4** | 1 1 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std Method 1 GW 1 | APS-120<br>19-Nov-10<br>20.00 | APS-120<br>19-Nov-10<br>25.00 | APS-120<br>19-Nov-10<br>30.00 | APS-120<br>19-Nov-10<br>35.00 | APS-120<br>19-Nov-10<br>40.00 | APS-120<br>19-Nov-10<br>45.00 | APS-120<br>19-Nov-10<br>50.00 | APS-120<br>19-Nov-10<br>55.00 | APS-120<br>19-Nov-10<br>60.00 | APS-120<br>22-Nov-10<br>65.00 | APS-120<br>22-Nov-10<br>74.20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2.3 | 2.6 | 3.3 | 5.4 | 4.9 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2.0 | 4.2 | 4.2 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | 1.1 | 1.8 | 1.7 | 4.9 | **12** | **29** | **32** | **37** | **51** | **48** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40.0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std Method 1 GW 1 | APS-121<br>19-Nov-10<br>20.00 | APS-121<br>19-Nov-10<br>25.00 | APS-121<br>19-Nov-10<br>30.00 | APS-121<br>19-Nov-10<br>35.00 | APS-121<br>19-Nov-10<br>40.00 | APS-121<br>19-Nov-10<br>45.00 | APS-121<br>19-Nov-10<br>50.00 | APS-121<br>19-Nov-10<br>53.70 | APS-121<br>19-Nov-10<br>59.00 | APS-121<br>19-Nov-10<br>64.80 | APS-121<br>22-Nov-10<br>69.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 5 | < 1.0 | 1 9 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2 4 | 3 6 | 1 2 | 2 4 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | 2 0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 2 2 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 4 9 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 3 6 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | 1 4 | 1 2 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 1 0 | < 1.0 | < 1.0 | 1 3 | 2 1 | < 1.0 | < 1.0 | 1 0 | **15** | **19** | **71** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-122<br>22-Nov-10<br><br>42.20 | APS-122<br>22-Nov-10<br><br>47.10 | APS-122<br>22-Nov-10<br><br>52.10 | APS-122<br>22-Nov-10<br><br>57.80 | APS-122<br>22-Nov-10<br><br>62.80 |
|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | 2 3 | 1 8 | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | 1 6 | 2 5 | *< 1.0* | *< 1.0* | *< 1.0* |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | 4 3 | **6.8** | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | **52** | **75** | **7.4** | *< 1.0* | *< 1.0* |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-123<br>22-Nov-10<br><br>20.00 | APS-123<br>22-Nov-10<br><br>24.90 | APS-123<br>22-Nov-10<br><br>31.80 | APS-123<br>22-Nov-10<br><br>54.20 | APS-123<br>22-Nov-10<br><br>59.80 |
|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | 4 5 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | 1 4 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 2 4 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | 24 | < 1.0 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | **18** | **200** | < 1.0 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-124<br>23-Nov-10<br><br>20.60 | APS-124<br>23-Nov-10<br><br>35.00 | APS-124<br>23-Nov-10<br><br>40.00 | APS-124<br>23-Nov-10<br><br>46.40 | APS-124<br>23-Nov-10<br><br>51.50 | APS-124<br>23-Nov-10<br><br>56.60 | APS-124<br>23-Nov-10<br><br>61.50 | APS-124<br>23-Nov-10<br><br>66.70 | APS-124<br>23-Nov-10<br><br>70.50 | APS-124<br>23-Nov-10<br><br>75.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 6 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 3 0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | **7.5** | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2 5 | 9 2 | 9 0 | 6 9 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 3 0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | 1 3 | 1 1 | < 1.0 | < 1.0 | 1 8 | 1 1 | 2 2 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 1 2 | 1 5 | 1 2 | 1 5 | 4 1 | **6.9** | **110** | **5.4** | **7.2** | **12** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-125<br>23-Nov-10<br><br>20.00 | APS-125<br>23-Nov-10<br><br>34.00 | APS-125<br>23-Nov-10<br><br>40.00 | APS-125<br>23-Nov-10<br><br>45.00 | APS-125<br>23-Nov-10<br><br>56.50 | APS-125<br>23-Nov-10<br><br>61.50 | APS-125<br>23-Nov-10<br><br>69.70 |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | 2 0 | 2 7 | 3 5 | 11 | 14 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | 1 4 | 1 9 | 1 6 | 1 3 | 1 4 | < 1.0 | 2 2 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | 1 1 | 1 3 | **25** | **33** | **36** | **82** | **40** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-126<br>23-Nov-10<br><br>20.00 | APS-126<br>23-Nov-10<br><br>30.00 | APS-126<br>24-Nov-10<br><br>35.00 | APS-126<br>24-Nov-10<br><br>40.00 | APS-126<br>24-Nov-10<br><br>45.00 | APS-126<br>24-Nov-10<br><br>49.00 | APS-126<br>24-Nov-10<br><br>54.00 | APS-126<br>24-Nov-10<br><br>60.00 | APS-126<br>24-Nov-10<br><br>66.90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1 4 | 3 2 | 3 0 |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 2 0 | 6 2 | 6 1 |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1 3 | 1 5 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 43 | 41 |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | 11 | 11 |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 2 3 | **80** | **85** |

Notes
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NS = No standard
µg/L = Micrograms per liter
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MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-127<br>23-Nov-10<br><br>20.00 | APS-127<br>23-Nov-10<br><br>35.00 | APS-127<br>23-Nov-10<br><br>40.00 | APS-127<br>23-Nov-10<br><br>44.70 | APS-127<br>24-Nov-10<br><br>50.00 | APS-127<br>24-Nov-10<br><br>55.00 | APS-127<br>24-Nov-10<br><br>60.00 | APS-127<br>24-Nov-10<br><br>65.00 | APS-127<br>24-Nov-10<br><br>70.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | 1 0 | *< 1.0* | 1 2 | 5 8 | 7 7 | 5 5 | 10 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 2 5 | 2 7 | 2 6 | 2 7 |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | **6.3** | **12** | **12** | **14** | **59** | **80** | **34** | **45** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std Method 1 GW 1 | APS-128<br>20-Dec-10<br>18.00 | APS-128<br>20-Dec-10<br>23.20 | APS-128<br>20-Dec-10<br>28.20 | APS-128<br>20-Dec-10<br>33.20 | APS-128<br>20-Dec-10<br>37.50 | APS-128<br>20-Dec-10<br>41.40 | APS-128<br>20-Dec-10<br>46.50 | APS-128<br>20-Dec-10<br>50.20 | APS-128<br>20-Dec-10<br>54.90 | APS-128<br>20-Dec-10<br>59.90 | APS-128<br>20-Dec-10<br>63.80 | APS-128<br>20-Dec-10<br>70.60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 1 1 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 3 1 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2 5 | **7.7** |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 2 9 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 3 6 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | 1 2 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | 1 0 | 1 0 | 2 6 | 2 7 | < 1.0 | < 1.0 | 2 2 | 1 0 | 4 2 | **21** | **91** |

Notes
< = Not detected at reported detection limit
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NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-129<br>20-Dec-10<br><br>18.20 | APS-129<br>20-Dec-10<br><br>23.10 | APS-129<br>20-Dec-10<br><br>28.00 | APS-129<br>20-Dec-10<br><br>33.00 | APS-129<br>20-Dec-10<br><br>38.00 | APS-129<br>20-Dec-10<br><br>43.00 | APS-129<br>20-Dec-10<br><br>48.20 | APS-129<br>20-Dec-10<br><br>53.00 | APS-129<br>20-Dec-10<br><br>58.80 | APS-129<br>20-Dec-10<br><br>63.80 | APS-129<br>20-Dec-10<br><br>66.80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 7 | 3 1 | 2 7 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 9 | 1 3 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | 1 9 | 3 4 | 3 8 | 4 3 | < 1.0 | **5.6** | **10** | **25** | **26** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-130<br>21-Dec-10<br>18.00 | APS-130<br>21-Dec-10<br>23.10 | APS-130<br>21-Dec-10<br>28.20 | APS-130<br>21-Dec-10<br>33.20 | APS-130<br>21-Dec-10<br>38.20 | APS-130<br>21-Dec-10<br>43.20 | APS-130<br>21-Dec-10<br>48.20 | APS-130<br>21-Dec-10<br>53.10 | APS-130<br>21-Dec-10<br>58.20 | APS-130<br>21-Dec-10<br>63.10 | APS-130<br>21-Dec-10<br>68.20 | APS-130<br>21-Dec-10<br>71.40 | APS-130<br>22-Dec-10<br>76.20 | APS-130<br>22-Dec-10<br>81.40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | 2 1 | 2 1 | < 1.0 | 2 2 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 2.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 2.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 2.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 2.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 4.0 | < 4.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 2.0 | < 2.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 4 1 | 8 1 | 12 | 24 | 21 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 4.0 | < 4.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 4.0 | < 4.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 1 | < 1.0 | 1 6 | < 1.0 | < 1.0 | < 2.0 | < 2.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 3 | < 2.0 | < 2.0 |
| Trichloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | 1 1 | 1 2 | 2 9 | 2 2 | **6.9** | **5.9** | **48** | **66** | **72** | **100** | **110** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-131<br>21-Dec-10<br><br>18.20 | APS-131<br>21-Dec-10<br><br>23.10 | APS-131<br>21-Dec-10<br><br>28.20 | APS-131<br>21-Dec-10<br><br>33.20 | APS-131<br>21-Dec-10<br><br>38.30 | APS-131<br>21-Dec-10<br><br>43.30 | APS-131<br>21-Dec-10<br><br>48.20 | APS-131<br>21-Dec-10<br><br>53.20 | APS-131<br>21-Dec-10<br><br>58.20 | APS-131<br>21-Dec-10<br><br>63.20 | APS-131<br>22-Dec-10<br><br>68.10 | APS-131<br>22-Dec-10<br><br>73.20 | APS-131<br>22-Dec-10<br><br>78.90 | APS-131<br>22-Dec-10<br><br>83.60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1 4 | 1 7 | 1 1 | 1 1 | 1 2 | 1 1 | 5 0 | 7 8 | 10 | 13 |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | 1 9 | 2 3 | 2 7 | 3 0 | 3 2 | 3 8 | **5.5** | **7.1** | **39** | **46** | **37** | **48** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-132<br>22-Dec-10<br><br>35.00 | APS-132<br>22-Dec-10<br><br>40.00 | APS-132<br>22-Dec-10<br><br>45.00 | APS-132<br>22-Dec-10<br><br>50.00 | APS-132<br>22-Dec-10<br><br>54.10 |
|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Methyl tert butyl ether | | 70 | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1 3 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-133<br>22-Dec-10<br>18.20 | APS-133<br>22-Dec-10<br>23.30 | APS-133<br>22-Dec-10<br>28.20 | APS-133<br>22-Dec-10<br>33.00 | APS-133<br>22-Dec-10<br>38.20 | APS-133<br>22-Dec-10<br>43.00 | APS-133<br>22-Dec-10<br>48.10 | APS-133<br>22-Dec-10<br>52.90 | APS-133<br>23-Dec-10<br>58.00 | APS-133<br>23-Dec-10<br>63.20 | APS-133<br>23-Dec-10<br>68.20 | APS-133<br>23-Dec-10<br>73.20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| 1,2-Dichlorobenzene | | 600 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Carbon disulfide | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Chloroform | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 1 5 | 2 2 |
| Methyl tert butyl ether | | 70 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tert-amyl methyl ether | | NS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| Tetrachloroethene | | 5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | < 1.0 | 3 2 | 3 2 | 2 9 | 1 7 | 2 1 | 2 1 | 1 7 | 1 2 | 1 3 | 2 8 | 1 7 |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 3**
**Southern Area Vertical Profiling**
**Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments<br>Depth (ft) | MCP Std<br>Method 1<br>GW 1 | APS-134<br>22-Dec-10<br><br>58.00 | APS-134<br>23-Dec-10<br><br>63.40 | APS-134<br>23-Dec-10<br><br>68.20 |
|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | |
| 1,1,1-Trichloroethane | | 200 | 4 2 | 6 4 | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | 1 1 |
| 1,1-Dichloroethene | | 7 | 3 1 | 2 0 | 2 3 |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* | *< 1.0* |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* | 4 0 |
| Methyl tert butyl ether | | 70 | 2 9 | 2 6 | *< 2.0* |
| Tert-amyl methyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | 1 2 | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | **24** | **35** | **66** |

Notes
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 4**
**Southern Area Vertical Profiler Waste Characterization**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | RETURN WATER<br>3-Dec-10 | APS IDW<br>3-Dec-10 |
|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | |
| 1,1,1,2-Tetrachloroethane | | 5 | *< 1.0* | *< 1.0* |
| 1,1,1-Trichloroethane | | 200 | *< 1.0* | *< 1.0* |
| 1,1,2,2-Tetrachloroethane | | 2 | *< 1.0* | *< 1.0* |
| 1,1,2-Trichloroethane | | 5 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* |
| 1,2,4-Trichlorobenzene | | 70 | *< 2.0* | *< 2.0* |
| 1,2-Dichlorobenzene | | 600 | *< 1.0* | *< 1.0* |
| 1,2-Dichloroethane | | 5 | *< 1.0* | *< 1.0* |
| 1,2-Dichloropropane | | 5 | *< 1.0* | *< 1.0* |
| 1,3-Dichlorobenzene | | 40 | *< 1.0* | *< 1.0* |
| 1,3-Dichloropropane | | NS | *< 2.0* | *< 2.0* |
| 1,4-Dichlorobenzene | | 5 | *< 1.0* | *< 1.0* |
| 4-Chlorotoluene | | NS | *< 2.0* | *< 2.0* |
| Bromodichloromethane | | 3 | *< 1.0* | *< 1.0* |
| Bromoform | | 4 | *< 2.0* | *< 2.0* |
| Carbon tetrachloride | | 5 | *< 1.0* | *< 1.0* |
| Chlorobenzene | | 100 | *< 1.0* | *< 1.0* |
| Chloroethane | | NS | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | *< 1.0* | *< 1.0* |
| cis-1,3-Dichloropropene | | 0 4 | *< 0.50* | *< 0.50* |
| Dibromochloromethane | | 2 | *< 1.0* | *< 1.0* |
| Ethylene dibromide | | 0 02 | *< 2.0* | *< 2.0* |
| Freon 12 | | NS | *< 2.0* | *< 2.0* |
| Hexachlorobutadiene | | 0 6 | *< 0.60* | *< 0.60* |
| Methyl chloride | | NS | *< 2.0* | *< 2.0* |
| Methylene chloride | | 5 | *< 2.0* | *< 2.0* |
| o-Chlorotoluene | | NS | *< 2.0* | *< 2.0* |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | *< 1.0* | *< 1.0* |
| trans-1,3-Dichloropropene | | 0 4 | *< 0.50* | *< 0.50* |
| Trichloroethene | | 5 | *< 1.0* | *< 1.0* |
| Vinyl chloride | | 2 | *< 1.0* | *< 1.0* |

Notes:
< = Not detected at reported detection limit
NS = No standard
µg/L = Micrograms per liter
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 5**
**Monitoring Well Decommissioning Plan**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Location Area and Well Designation | | |
|---|---|---|
| **Main Building Area** | **MW-43 Area** | **Other Southern Area** |
| IP-16S | MW-43S | HA-102 |
| IP-16D | MW-43D | HA-103 |
| IP-17D | MW-104 | HA-104 |
| MW-117 | MW-105 | MW-10 |
| MW-118 | MW-105M | MW-37 |
| MW-404 | MW-106 | MW-37M |
| MW-405S | MW-106M | MW-42S |
| **MW-33 Area** | MW-209 | MW-44S |
| MW-33S | MW-210 | MW-44M |
| MW-33M | MW-211 | MW-44D |
| MW-33D | MW-212 | MW-45S |
| MW-33B | MW-212M | MW-45M |
| MW-107 | | MW-45D |
| MW-108 | **MW-102 Area** | MW-45B |
| MW-109 | MW-47S | MW-46S |
| MW-110 | MW-47M | MW-46M |
| MW-111 | MW-47D | MW-101 |
| MW-112 | MW-102 | MW-205S |
| MW-113 | MW-103 | MW-205M |
| MW-114 | MW-201S | MW-205D |
| MW-115 | MW-201M | MW-206S |
| MW-116 | MW-201D | MW-206M |
| MW-202S | MW-203S | MW-206D |
| MW-202M | MW-203M | MW-207S |
| MW-202D | MW-203D | MW-207M |
| **MW-40 Area** | MW-204S | MW-207D |
| MW-34 | MW-204M | MW-208S |
| MW-38 | MW-204D | MW-208M |
| MW-40 | MW-213 | MW-208D |
| MW-40S | MW-214 | |
| MW-215S | MW-403 | **Northern Area of Parking Lot** |
| MW-215M | | HA-101 |
| MW-215D | **Western Area** | MW-1S |
| MW-216S | MW-41 | MW-1M |
| MW-216M | | MW-1D |
| MW-216D | | |

**Table 6**
**Cow Common Sentinel Wells Analytical Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | SEN-1D<br>6-Apr-11 | SEN-1M<br>6-Apr-11 | SEN-2D<br>6-Apr-11 | SEN-2M<br>6-Apr-11 | SEN-2M<br>6-Apr-11<br>DUP | SEN-3<br>6-Apr-11 |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | |
| Carbon disulfide | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Chloroform | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | 1 3 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Ethyl-tert-butyl ether | | NS | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* | *< 2.0* |
| Toluene | | 1,000 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |

Notes:
Only those compounds historically detected are tabulated  A full US EPA Method 8260B analysis was conducted for each sample
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
µg/L = Micrograms per liter
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 7**
**Groundwater Gauging Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| | April 2011 | | |
|---|---|---|---|
| **Well Designation** | **Measuring Point Elevation** (ft ASL) | **Depth to Water** (ft) | **Potentiometric Surface Elevation** (ft ASL) |
| HA-101 | 127 60 | 4 40 | 123 20 |
| HA-102 | 128 20 | 11 30 | 116 90 |
| HA-104 | 132 70 | 14 60 | 118 10 |
| IW-2 | 129 34 | 9 95 | 119 39 |
| IW-5 | 128 26 | 9 12 | 119 14 |
| IW-8 | 128 48 | 9 41 | 119 07 |
| MW-1S | 131 10 | 8 12 | 122 98 |
| MW-1D | 131 10 | 13 59 | 117 51 |
| MW-10 | 131 30 | 5 79 | 125 51 |
| MW-32 | 124 80 | 0 96 | 123 84 |
| MW-33S | 134 00 | 14 80 | 119 20 |
| MW-33D | 134 00 | 16 20 | 117 80 |
| MW-34 | 137 00 | 9 20 | 127 80 |
| MW-37 | 134 70 | 14 20 | 120 50 |
| MW-37M | 134 70 | 15 86 | 118 84 |
| MW-38 | 134 60 | 14 01 | 120 59 |
| MW-40 | 135 20 | 14 00 | 121 20 |
| MW-40S | 135 20 | 13 95 | 121 25 |
| MW-41 | 125 30 | 11 56 | 113 74 |
| MW-42S | 134 80 | 13 20 | 121 60 |
| MW-43S | 134 40 | 13 03 | 121 37 |
| MW-43D | 134 40 | 14 85 | 119 55 |
| MW-44S | 134 90 | 14 25 | 120 65 |
| MW-44D | 134 90 | 14 83 | 120 07 |
| MW-45S | 132 50 | 15 01 | 117 49 |
| MW-45M | 132 50 | 15 12 | 117 38 |
| MW-45D | 132 50 | 15 40 | 117 10 |
| MW-45B | 132 10 | 14 64 | 117 46 |
| MW-46S | 132 80 | 12 60 | 120 20 |
| MW-46M | 132 80 | 14 40 | 118 40 |
| MW-47S | 132 60 | 14 54 | 118 06 |

| | April 2011 | | |
|---|---|---|---|
| **Well Designation** | **Measuring Point Elevation** (ft ASL) | **Depth to Water** (ft) | **Potentiometric Surface Elevation** (ft ASL) |
| MW-101 | 134 70 | 16 95 | 117 75 |
| MW-102 | 134 60 | 16 12 | 118 48 |
| MW-103 | 134 60 | 15 01 | 119 59 |
| MW-104 | 134 30 | 13 00 | 121 30 |
| MW-105 | 134 70 | 14 70 | 120 00 |
| MW-106 | 135 00 | 13 70 | 121 30 |
| MW-108 | 134 80 | 15 83 | 118 97 |
| MW-110 | 134 30 | 14 70 | 119 60 |
| MW-112 | 134 00 | 14 50 | 119 50 |
| MW-114 | 134 00 | 14 56 | 119 44 |
| MW-116 | 134 00 | 14 45 | 119 55 |
| MW-201S | 132 50 | 14 50 | 118 00 |
| MW-201D | 132 50 | 14 49 | 118 01 |
| MW-202S | 133 30 | 14 37 | 118 93 |
| MW-202D | 133 30 | 15 20 | 118 10 |
| MW-203S | 132 80 | 15 22 | 117 58 |
| MW-203D | 132 80 | 14 63 | 118 17 |
| MW-204S | 132 60 | 14 77 | 117 83 |
| MW-204D | 132 60 | 14 73 | 117 87 |
| MW-205S | 132 40 | 14 48 | 117 92 |
| MW-205D | 132 40 | 14 58 | 117 82 |
| MW-206S | 131 10 | 13 90 | 117 20 |
| MW-206D | 131 10 | 14 68 | 116 42 |
| MW-207S | 129 50 | 12 77 | 116 73 |
| MW-207D | 129 50 | 12 08 | 117 42 |
| MW-208S | 132 90 | 14 14 | 118 76 |
| MW-208D | 132 90 | 14 90 | 118 00 |
| MW-209 | 134 90 | NR | 134 90 |
| MW-210 | 134 60 | NR | 134 60 |
| MW-211 | 135 30 | NR | 135 30 |
| MW-212 | 134 60 | 13 45 | 121 15 |

**Table 7**
**Groundwater Gauging Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| | April 2011 | | |
|---|---|---|---|
| **Well Designation** | **Measuring Point Elevation** (ft ASL) | **Depth to Water** (ft) | **Potentiometric Surface Elevation** (ft ASL) |
| MW-47M | 132 60 | 14 26 | 118 34 |
| MW-213 | 134 90 | 15 47 | 119 43 |
| MW-214 | 134 70 | 16 35 | 118 35 |
| MW-215S | 133 80 | 13 00 | 120 80 |
| MW-215D | 133 80 | 13 40 | 120 40 |
| MW-216M | 134 80 | 13 80 | 121 00 |
| MW-216D | 134 80 | 14 42 | 120 38 |
| MW-217S | 129 50 | 11 00 | 118 50 |
| MW-217D | 129 50 | 12 01 | 117 49 |
| MW-218S | 129 40 | 12 63 | 116 77 |
| MW-218D | 129 40 | 11 98 | 117 42 |
| MW-219S | 118 40 | 2 62 | 115 78 |
| MW-219D | 118 40 | 1 23 | 117 17 |
| MW-220S | 117 50 | 2 47 | 115 03 |
| MW-221M | 119 50 | 1 30 | 118 20 |
| MW-261S | 127 28 | 8 63 | 118 65 |
| MW-263S | 127 78 | 6 96 | 120 82 |

| | April 2011 | | |
|---|---|---|---|
| **Well Designation** | **Measuring Point Elevation** (ft ASL) | **Depth to Water** (ft) | **Potentiometric Surface Elevation** (ft ASL) |
| MW-264S | 123 60 | 5 02 | 118 58 |
| MW-264M | 123 10 | 6 46 | 116 64 |
| MW-265S | 127 50 | 7 36 | 120 14 |
| MW-265M | 127 48 | 10 69 | 116 79 |
| MW-266S | 125 04 | 6 63 | 118 41 |
| MW-266Mb | 125 24 | 7 83 | 117 41 |
| MW-267M | 123 26 | 7 41 | 115 85 |
| MW-268M | 121 48 | 5 96 | 115 52 |
| MW-269S | 122 41 | 6 82 | 115 59 |
| MW-269Mb | 122 17 | 8 20 | 113 97 |
| MW-307 | 121 50 | 9 42 | 112 08 |
| MW-403 | 134 39 | 16 78 | 117 61 |
| MW-501M | 136 04 | 15 55 | 120 49 |
| MW-502M | 136 54 | 13 05 | 123 49 |
| MW-560 | 127 23 | 8 16 | 119 07 |
| MW-561 | 127 90 | 8 47 | 119 43 |
| MW-TP-3 | 128 90 | 7 48 | 121 42 |

Notes

ASL = Above mean sea level

NR = Not recorded, well was flooded

**Table 8a**
**Geochemical Parameters Summary**
**Northern Area**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled | DEP-19M<br>7-Apr-11 | DEP-21<br>7-Apr-11 | MW-263M<br>4-Apr-11 | MW-264M<br>4-Apr-11 | MW-266Ma<br>4-Apr-11 | MW-267S<br>4-Apr-11 | MW-267M<br>4-Apr-11 | MW-268D<br>4-Apr-11 |
|---|---|---|---|---|---|---|---|---|---|
| **Geochemical Parameters** | | | | | | | | | |
| Temperature (deg C) | | 9 76 | 7 96 | 6 90 | 7 30 | 8 32 | 8 65 | 8 31 | 7 78 |
| pH (unitless) | | 9 62 | 6 83 | 7 60 | 6 40 | 6 39 | 6 77 | 6 79 | 7 95 |
| Specific conductivity (µS/cm) | | 137 | 169 | 513 | 239 | 218 | 430 | 310 | 317 |
| Oxidation-reduction potential (mV) | | -300 1 | -132 6 | -235 1 | -29 5 | 22 8 | -81 7 | -80 9 | -106 8 |
| Dissolved oxygen (mg/L) | | 0 30 | 0 56 | 0 36 | 0 59 | 1 18 | 0 39 | 0 45 | 0 63 |

Notes
deg C = degrees Celsius
mg/L = Milligrams per liter
mV = Millivolts
µS/cm = MicroSiemens per centimeter

**Table 8a**
**Geochemical Parameters Summary**
**Northern Area**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled | MW-269Ma<br>6-Apr-11 | MW-554D<br>7-Apr-11 | MW-555D<br>7-Apr-11 |
|---|---|---|---|---|
| **Geochemical Parameters** | | | | |
| Temperature (deg C) | | 11 89 | 10 35 | 10 68 |
| pH (unitless) | | 6 87 | 7 83 | 7 74 |
| Specific conductivity (µS/cm) | | 455 | 261 | 421 |
| Oxidation-reduction potential (mV) | | -63 3 | 146 2 | -231 0 |
| Dissolved oxygen (mg/L) | | 2 12 | 0 41 | 0 41 |

Notes
deg C = degrees Celsius
mg/L = Milligrams per liter
mV = Millivolts
µS/cm = MicroSiemens per centimeter

**Table 8b**
**Geochemical Parameters Summary**
**Southern Area**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Sample I.D. | MW-40 | MW-45B | MW-46M | MW-47M | MW-105 |
|---|---|---|---|---|---|
| Date Sampled | 5-Apr-11 | 5-Apr-11 | 5-Apr-11 | 5-Apr-11 | 6-Apr-11 |
| **Geochemical Parameters** | | | | | |
| Temperature (deg C) | 12 29 | 11 81 | 14 15 | 12 00 | 10 36 |
| pH (unitless) | 7 01 | 7 10 | 6 61 | 7 60 | 6 79 |
| Specific conductivity (µS/cm) | 213 | 1,055 | 1,503 | 553 | 371 |
| Oxidation-reduction potential (mV) | 167 7 | 71 2 | 176 9 | 89 2 | 28 5 |
| Dissolved oxygen (mg/L) | 9 89 | 0 40 | 0 86 | 1 05 | 4 28 |

Notes
deg C = degrees Celsius
mg/L = Milligrams per liter
mV = Millivolts
µS/cm = MicroSiemens per centimeter

**Table 8b**
**Geochemical Parameters Summary**
**Southern Area**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Sample I.D. | MW-115 | MW-201M | MW-202M | MW-203D | MW-204M | MW-205M | MW-206M |
|---|---|---|---|---|---|---|---|
| Date Sampled | 5-Apr-11 | 6-Apr-11 | 5-Apr-11 | 5-Apr-11 | 6-Apr-11 | 5-Apr-11 | 5-Apr-11 |
| **Geochemical Parameters** | | | | | | | |
| Temperature (deg C) | 12 77 | 12 55 | 12 28 | 12 29 | 12 34 | 13 42 | 13 74 |
| pH (unitless) | 6 14 | 6 73 | 6 02 | 6 14 | 6 09 | 5 78 | 6 23 |
| Specific conductivity (µS/cm) | 436 | 1,311 | 187 | 881 | 282 | 440 | 338 |
| Oxidation-reduction potential (mV) | 54 0 | -24 2 | 184 4 | 29 6 | 174 2 | 223 9 | 1 5 |
| Dissolved oxygen (mg/L) | 0 42 | 0 39 | 1 14 | 0 42 | 0 53 | 0 38 | 0 47 |

Notes
deg C = degrees Celsius
mg/L = Milligrams per liter
mV = Millivolts
µS/cm = MicroSiemens per centimeter

**Table 8b**
**Geochemical Parameters Summary**
**Southern Area**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Sample I.D. | MW-206D | MW-207M | MW-208M | MW-403 |
|---|---|---|---|---|
| Date Sampled | 5-Apr-11 | 5-Apr-11 | 6-Apr-11 | 6-Apr-11 |
| **Geochemical Parameters** | | | | |
| Temperature (deg C) | 10 85 | 10 50 | 8 05 | 13 38 |
| pH (unitless) | 6 62 | 6 63 | 12 00 | 6 45 |
| Specific conductivity (µS/cm) | 443 | 587 | 2,083 | 1,112 |
| Oxidation-reduction potential (mV) | -94 2 | -68 4 | 97 2 | 113 0 |
| Dissolved oxygen (mg/L) | 0 43 | 0 32 | 3 35 | 0 36 |

Notes
deg C = degrees Celsius
mg/L = Milligrams per liter
mV = Millivolts
µS/cm = MicroSiemens per centimeter

## Table 9a
## Northern Area Analytical Data Summary
## Former Raytheon Facility
## Wayland, Massachusetts

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | DEP-19M<br>7-Apr-11 | DEP-21<br>7-Apr-11 | MW-263M<br>4-Apr-11 | MW-264M<br>4-Apr-11 | MW-264M<br>4-Apr-11<br>DUP | MW-266Ma<br>4-Apr-11 |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | |
| 1,1-Dichloroethane | | 70 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | 2.7 | 14 | ***< 1.0*** | 28 | 28 | 2.3 |
| Tetrachloroethene | | 5 | *< 1.0* | *< 1.0* | *< 1.0* | **7.0** | **7.2** | *< 1.0* |
| Trichloroethene | | 5 | *< 1.0* | 2.1 | *< 1.0* | **37** | **37** | **6.0** |
| Vinyl chloride | | 2 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | 1.0 | *< 1.0* |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | |
| 1,4-Dioxane | | 3 | | | | | | |

Notes:
< = Not detected at reported detection limit.
DUP = Duplicate sample.
Blank cells = Not analyzed.
µg/L = Micrograms per liter.
Bold and shaded cells indicate exceedance of MCP standard.
MCP = Massachusetts Contingency Plan 310 CMR 40.0000.

**Table 9a**
**Northern Area Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | MW-267M<br>4-Apr-11 | MW-267S<br>4-Apr-11 | MW-267S<br>4-Apr-11<br>DUP | MW-268D<br>4-Apr-11 | MW-269Ma<br>6-Apr-11 | MW-554D<br>7-Apr-11 | MW-555D<br>7-Apr-11 |
|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,1-Dichloroethane | | 70 | 1.2 | 1.3 | 1.3 | *< 1.0* | 1.2 | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | *< 1.0* | 1.0 | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | **320** | **97** | **85** | 9.8 | 2.1 | *< 1.0* | 1.3 |
| Tetrachloroethene | | 5 | **15** | **11** | **13** | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| Trichloroethene | | 5 | **240** | **510** | **450** | **8.4** | *< 1.0* | *< 1.0* | *< 1.0* |
| Vinyl chloride | | 2 | **17** | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | | |
| 1,4-Dioxane | | 3 | | | | | 2.45 | | 1.89 |

Notes:
< = Not detected at reported detection limit.
DUP = Duplicate sample.
Blank cells = Not analyzed.
µg/L = Micrograms per liter.
Bold and shaded cells indicate exceedance of MCP standard.
MCP = Massachusetts Contingency Plan 310 CMR 40.0000.

**Table 9b**
**Southern Area Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | IP-16S<br>17-Mar-11 | IP-16S<br>5-Apr-11 | IP-16D<br>5-Apr-11 | IP-17D<br>17-Mar-11 | IP-17D<br>5-Apr-11 | MW-40<br>5-Apr-11 | MW-45B<br>5-Apr-11 | MW-45B<br>5-Apr-11<br>DUP |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | | | | | | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethane | | 70 | | | | | | *< 1.0* | *< 1.0* | *< 1.0* |
| 1,1-Dichloroethene | | 7 | | | | | | *< 1.0* | *< 1.0* | *< 1.0* |
| Chloroform | | 70 | | | | | | *< 1.0* | *< 1.0* | *< 1.0* |
| cis-1,2-Dichloroethene | | 70 | | | | | | *< 1.0* | 18 | 17 |
| Tetrachloroethene | | 5 | | | | | | 1 4 | *< 1.0* | *< 1.0* |
| trans-1,2-Dichloroethene | | 100 | | | | | | *< 1.0* | **2.0** | 1 8 |
| Trichloroethene | | 5 | | | | | | **6.5** | **100** | **96** |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,4-Dioxane | | 3 | | | | | | | | |
| **Colorimetry** | | | | | | | | | | |
| Color | | NS | Clear | Clear | Clear | Purple | Purple | | | |
| Permanganate (as ppm $NaMnO_4$) | | NS | 1 1 | *< 1* | *< 1* | 42 | 831 | | | |

Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
Blank cells = Not analyzed
µg/L = Micrograms per liter
ppm = Parts per million (approximately mg/L)
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 9b**
**Southern Area Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std Method 1 GW 1 | MW-46M 5-Apr-11 | MW-47M 5-Apr-11 | MW-101 17-Mar-11 | MW-102 17-Mar-11 | MW-102 5-Apr-11 | MW-105 6-Apr-11 | MW-115 5-Apr-11 | MW-118 5-Apr-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | < *1.0* | < *1.0* | | | | < *1.0* | 17 | < *1.0* |
| 1,1-Dichloroethane | | 70 | < *1.0* | < *1.0* | | | | < *1.0* | < *1.0* | < *1.0* |
| 1,1-Dichloroethene | | 7 | < *1.0* | < *1.0* | | | | < *1.0* | < *1.0* | < *1.0* |
| Chloroform | | 70 | < *1.0* | < *1.0* | | | | < *1.0* | < *1.0* | < *1.0* |
| cis-1,2-Dichloroethene | | 70 | < *1.0* | 5 4 | | | | < *1.0* | < *1.0* | < *1.0* |
| Tetrachloroethene | | 5 | < *1.0* | 2 3 | | | | 1 2 | < *1.0* | < *1.0* |
| trans-1,2-Dichloroethene | | 100 | < *1.0* | < *1.0* | | | | < *1.0* | < *1.0* | < *1.0* |
| Trichloroethene | | 5 | 1 0 | **35** | | | | **7.6** | **65** | < *1.0* |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,4-Dioxane | | 3 | 1 12 | | | | | | | |
| **Colorimetry** | | | | | | | | | | |
| Color | | NS | | | Clear | Pink | Pink | | | Pink |
| Permanganate (as ppm $NaMnO_4$) | | NS | | | < *1* | 3 0 | 18 | | | 16 |

Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
Blank cells = Not analyzed
µg/L = Micrograms per liter
ppm = Parts per million (approximately mg/L)
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 9b**
**Southern Area Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | MW-201S<br>17-Mar-11 | MW-201M<br>6-Apr-11 | MW-201M<br>6-Apr-11<br>DUP | MW-202M<br>5-Apr-11 | MW-203S<br>17-Mar-11 | MW-203M<br>17-Mar-11 | MW-203D<br>5-Apr-11 | MW-204S<br>17-Mar-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | | *< 1.0* | *< 1.0* | 22 | | | *< 1.0* | |
| 1,1-Dichloroethane | | 70 | | 1 9 | 1 9 | *< 1.0* | | | *< 1.0* | |
| 1,1-Dichloroethene | | 7 | | 3 1 | 2 9 | 1 5 | | | *< 1.0* | |
| Chloroform | | 70 | | *< 1.0* | *< 1.0* | *< 1.0* | | | *< 1.0* | |
| cis-1,2-Dichloroethene | | 70 | | 41 | 40 | *< 1.0* | | | 7 7 | |
| Tetrachloroethene | | 5 | | *< 1.0* | *< 1.0* | *< 1.0* | | | 2 5 | |
| trans-1,2-Dichloroethene | | 100 | | *< 1.0* | *< 1.0* | *< 1.0* | | | *< 1.0* | |
| Trichloroethene | | 5 | | **44** | **43** | **79** | | | **94** | |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,4-Dioxane | | 3 | | | | 0 608 | | | | |
| **Colorimetry** | | | | | | | | | | |
| Color | | NS | Clear | | | | Clear | Clear | | Clear |
| Permanganate (as ppm $NaMnO_4$) | | NS | *< 1* | | | | *< 1* | *< 1* | | *< 1* |

Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
Blank cells = Not analyzed
µg/L = Micrograms per liter
ppm = Parts per million (approximately mg/L)
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 9b**
**Southern Area Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter | Sample I.D.<br>Date Sampled<br>Comments | MCP Std<br>Method 1<br>GW 1 | MW-204M<br>17-Mar-11 | MW-204M<br>6-Apr-11 | MW-205S<br>17-Mar-11 | MW-205M<br>17-Mar-11 | MW-205M<br>5-Apr-11 | MW-206M<br>5-Apr-11 | MW-206D<br>5-Apr-11 | MW-207M<br>5-Apr-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 200 | | 28 | | | 36 | < 1.0 | < 1.0 | < 1.0 |
| 1,1-Dichloroethane | | 70 | | 1 0 | | | < 2.5 | 1 9 | < 1.0 | < 1.0 |
| 1,1-Dichloroethene | | 7 | | 5 8 | | | < 2.5 | 2 0 | < 1.0 | < 1.0 |
| Chloroform | | 70 | | < 1.0 | | | < 2.5 | < 1.0 | < 1.0 | < 1.0 |
| cis-1,2-Dichloroethene | | 70 | | < 1.0 | | | < 2.5 | < 1.0 | 6 0 | 1 5 |
| Tetrachloroethene | | 5 | | < 1.0 | | | < 2.5 | < 1.0 | < 1.0 | < 1.0 |
| trans-1,2-Dichloroethene | | 100 | | < 1.0 | | | < 2.5 | < 1.0 | < 1.0 | < 1.0 |
| Trichloroethene | | 5 | | **120** | | | **140** | **20** | **33** | **11** |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,4-Dioxane | | 3 | | | | | | | | |
| **Colorimetry** | | | | | | | | | | |
| Color | | NS | Clear | Clear | Clear | Clear | Clear | | | |
| Permanganate (as ppm $NaMnO_4$) | | NS | < 1 | < 1 | < 1 | < 1 | < 1 | | | |

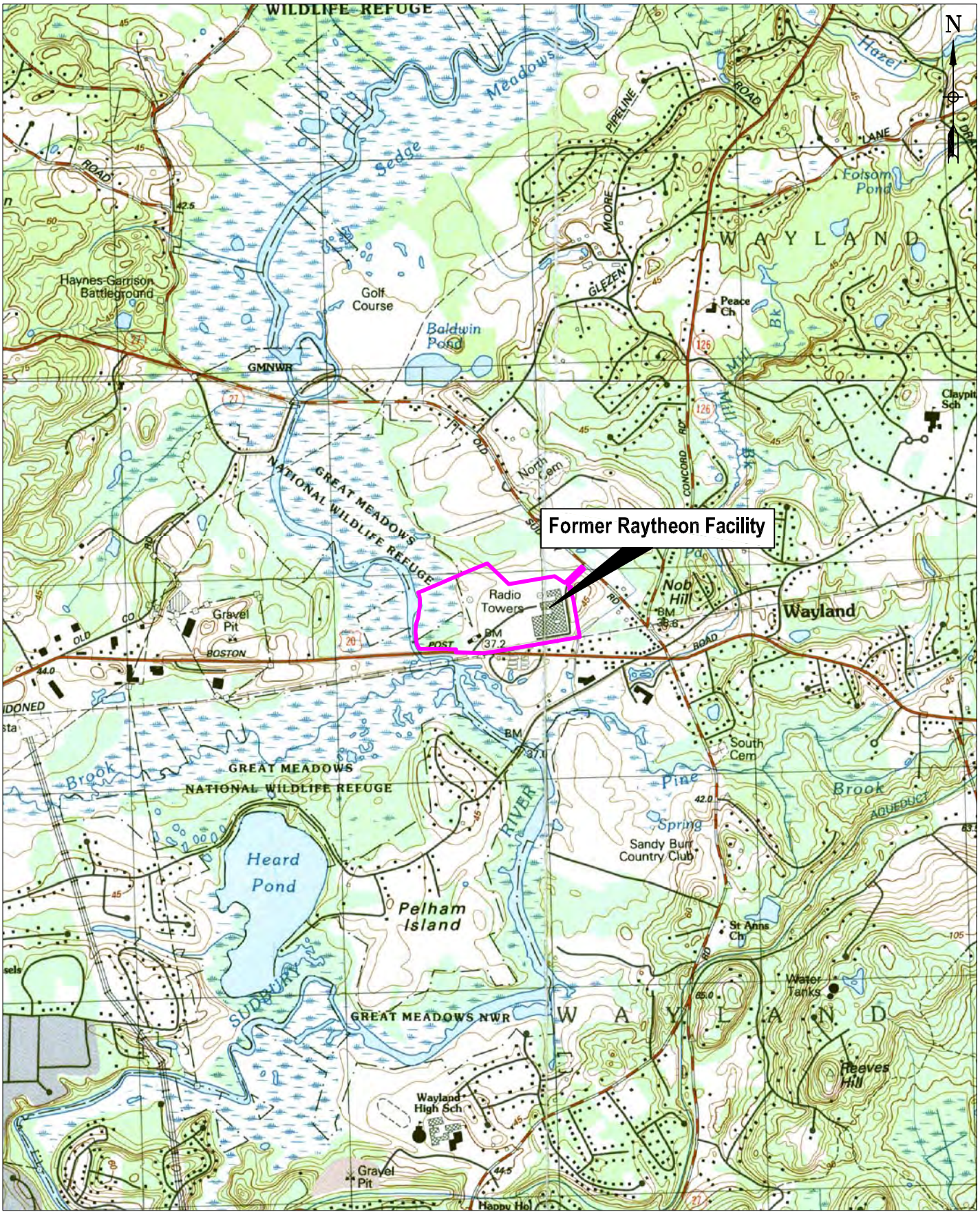
Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
Blank cells = Not analyzed
µg/L = Micrograms per liter
ppm = Parts per million (approximately mg/L)
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

**Table 9b**
**Southern Area Analytical Data Summary**
**Former Raytheon Facility**
**Wayland, Massachusetts**

| Parameter / Sample I.D. / Date Sampled / Comments | MCP Std Method 1 GW 1 | MW-208S 17-Mar-11 | MW-208M 17-Mar-11 | MW-208M 6-Apr-11 | MW-403 6-Apr-11 | MW-404 17-Mar-11 | MW-404 5-Apr-11 | MW-405S 17-Mar-11 | MW-405S 5-Apr-11 | RUSSWELL 7-Apr-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,1,1-Trichloroethane | 200 | | | 1 3 | < *1.0* | | | | | < *1.0* |
| 1,1-Dichloroethane | 70 | | | 4 4 | < *1.0* | | | | | < *1.0* |
| 1,1-Dichloroethene | 7 | | | 2 4 | < *1.0* | | | | | < *1.0* |
| Chloroform | 70 | | | < *1.0* | 1 2 | | | | | < *1.0* |
| cis-1,2-Dichloroethene | 70 | | | 2 6 | 1 7 | | | | | < *1.0* |
| Tetrachloroethene | 5 | | | < *1.0* | 1 3 | | | | | < *1.0* |
| trans-1,2-Dichloroethene | 100 | | | < *1.0* | < *1.0* | | | | | < *1.0* |
| Trichloroethene | 5 | | | **46** | **30** | | | | | < *1.0* |
| **Semi Volatile Organic Compounds** (µg/L) | | | | | | | | | | |
| 1,4-Dioxane | 3 | | | | 0 903 | | | | | |
| **Colorimetry** | | | | | | | | | | |
| Color | NS | Clear | Clear | Clear | | Pink | Purple | Dark Pink | Purple | |
| Permanganate (as ppm $NaMnO_4$) | NS | < *1* | < *1* | < *1* | | 6 0 | 687 | 30 | 129 | |

Notes:
< = Not detected at reported detection limit
DUP = Duplicate sample
NS = No standard
Blank cells = Not analyzed
µg/L = Micrograms per liter
ppm = Parts per million (approximately mg/L)
Bold and shaded cells indicate exceedance of MCP standard
MCP = Massachusetts Contingency Plan 310 CMR 40 0000

*Figures*




Legend

Former Raytheon Facility Property Boundary

Scale = 1:25,000

**Figure 1** - Site Locus Map
Former Raytheon Facility
and Former Hamlen Parcel - Wayland, MA

ERM

R:\Raytheon\Wayland - 1922\Raytheon ROS\ROS Locus.dwg (05/24/2005 - 11:50am Boston)

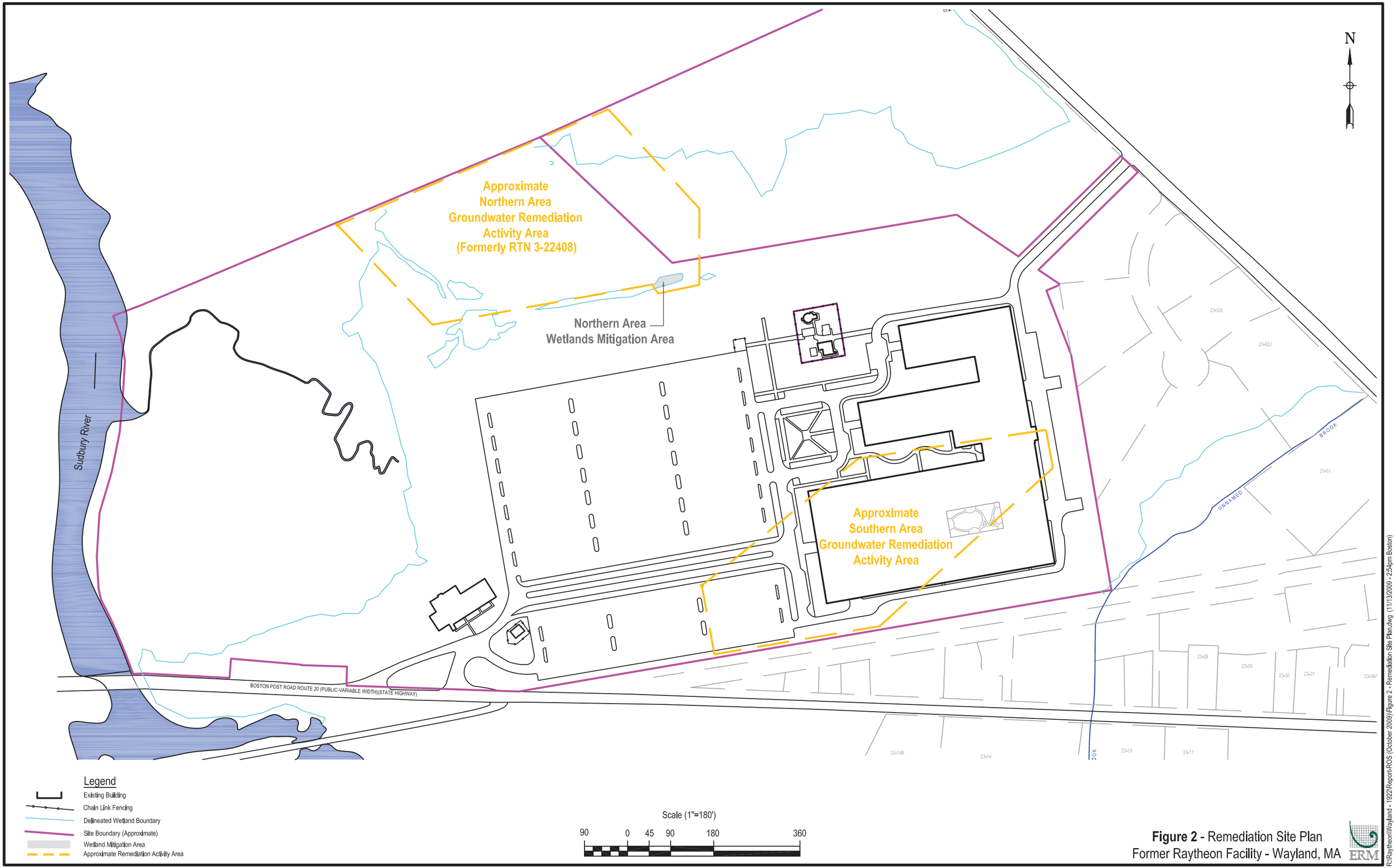
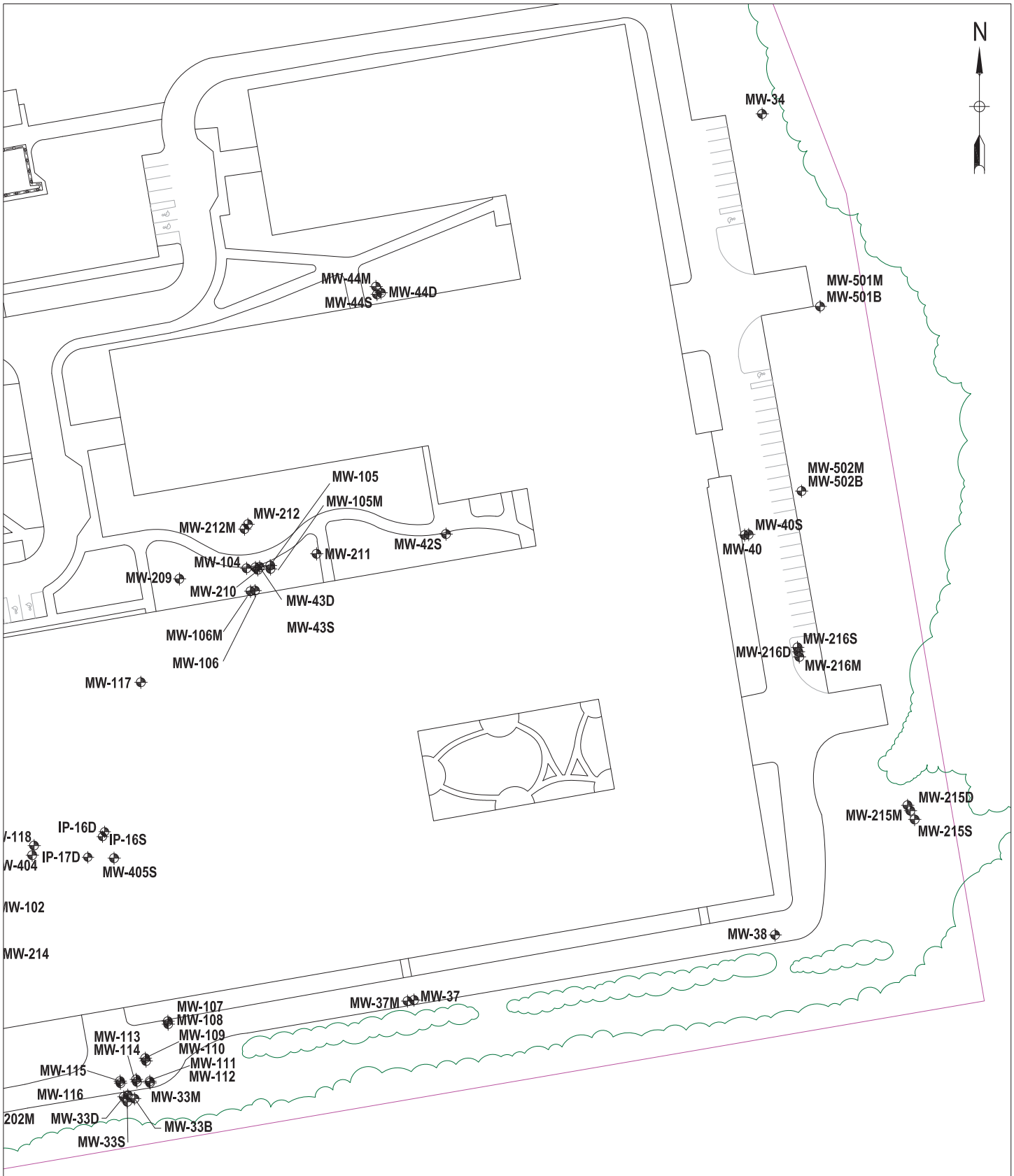



**Figure 2** - Remediation Site Plan
Former Raytheon Facility - Wayland, MA




## Legend

- Existing Building
- Existing Monitoring Well Location
- Property Boundary

Scale (1"=100')

50' 0 50' 100' 200'

**Figure 3 -** Eastern Area Well Locations
Former Raytheon Facility - Wayland, MA

ERM

G:\Graphics\Clients\Raytheon\WAYLAND\CAD\April 2011\TCE Concentration Map - April 2011.dwg (04/21/2011 - 3:47pm Boston)

**Legend**

- Waterloo APS

**Figure 4 -** Waterloo APS Locations
Former Raytheon Facility
Wayland, MA

ERM

G:\Graphics\Clients\Raytheon\WAYLAND\MXD\WorkingFigures\20110420\APS_Locations_20110420.mxd samantha.nakata 4/21/2011

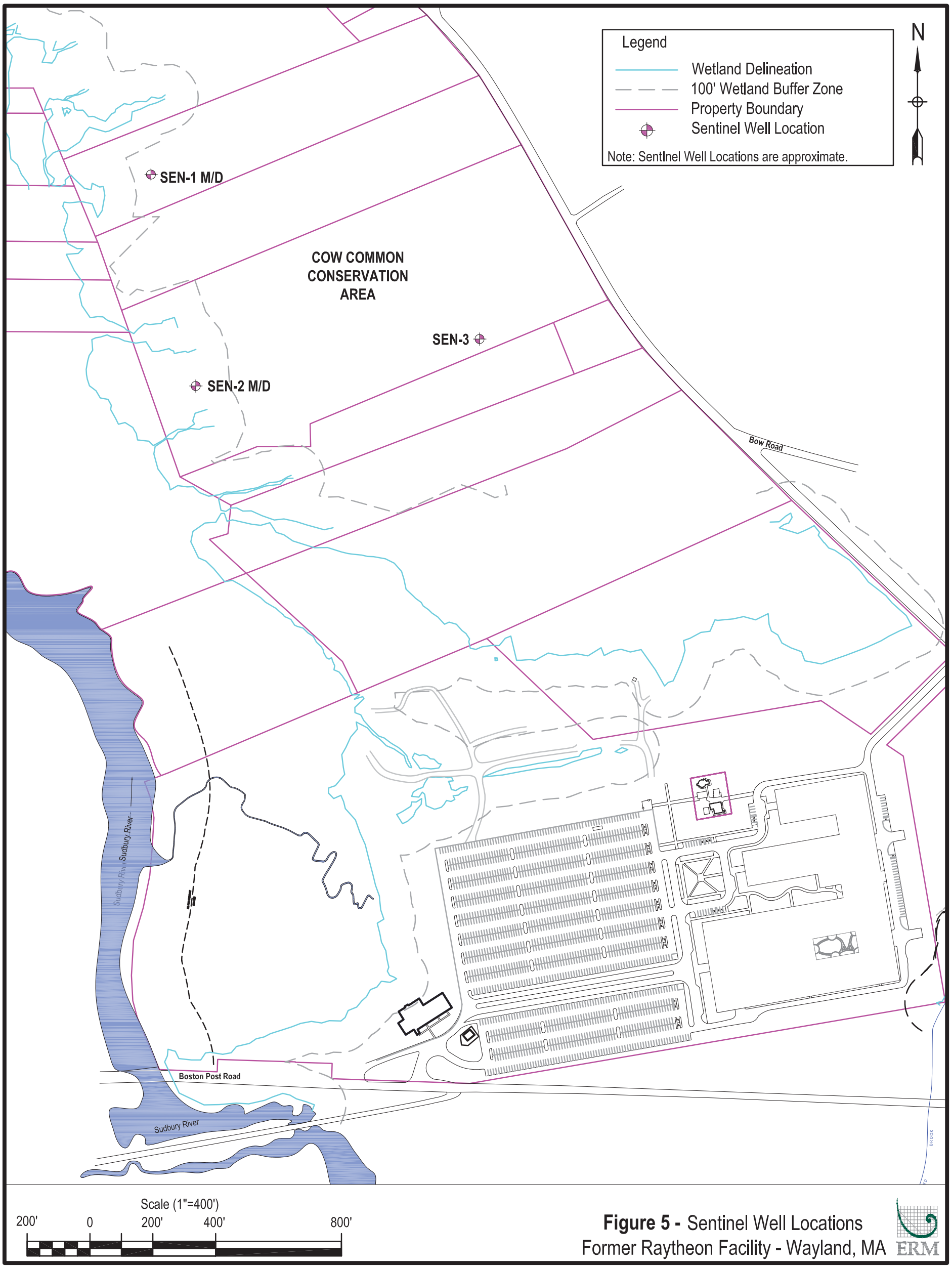



**Figure 5 -** Sentinel Well Locations
Former Raytheon Facility - Wayland, MA

ERM

G:\Graphics\Clients\Raytheon\WAYLAND\CAD\November2010\Sentinel Well Location.dwg (11/03/2010 - 12:33pm Boston)

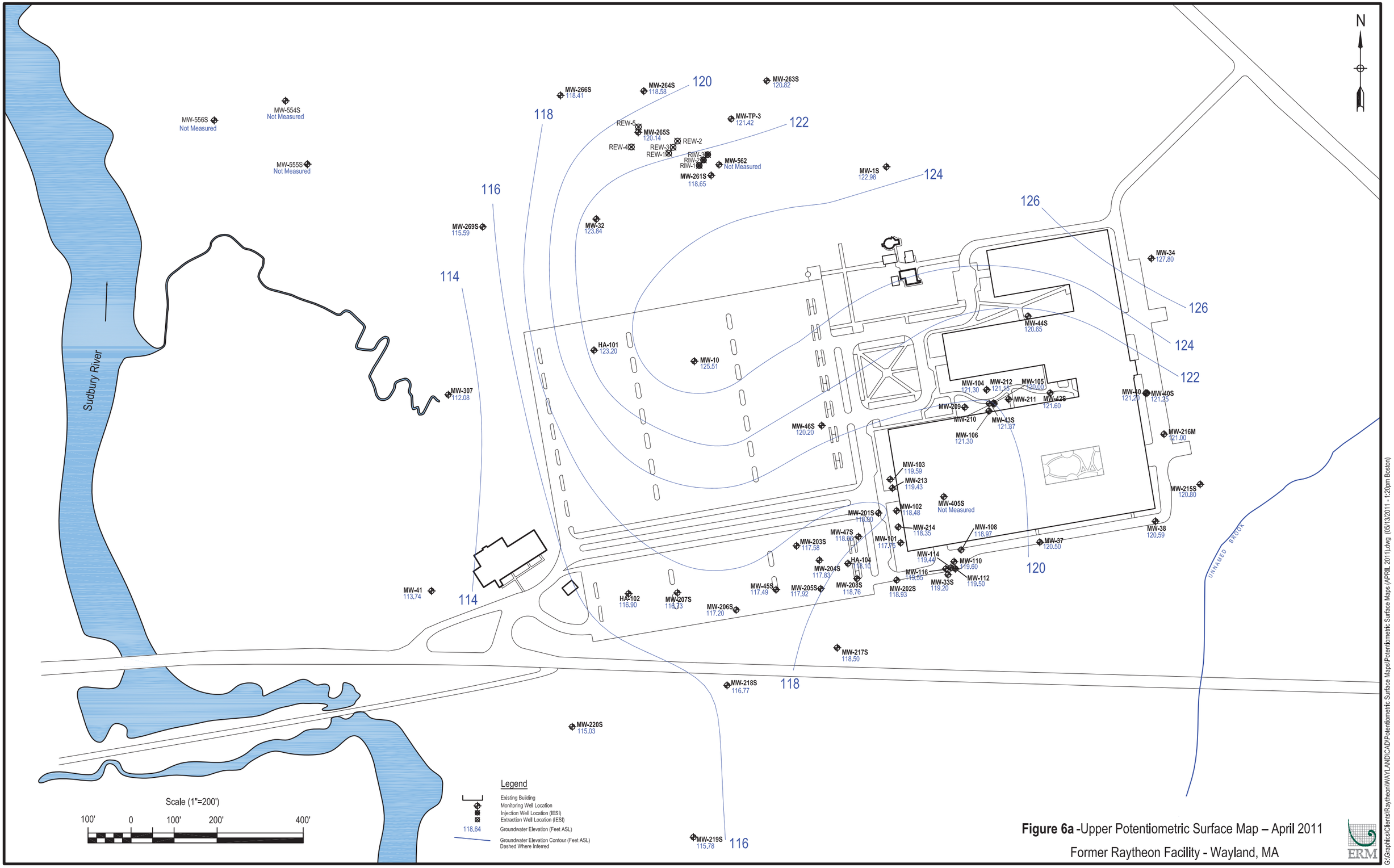



**Figure 6a** -Upper Potentiometric Surface Map – April 2011

Former Raytheon Facility - Wayland, MA

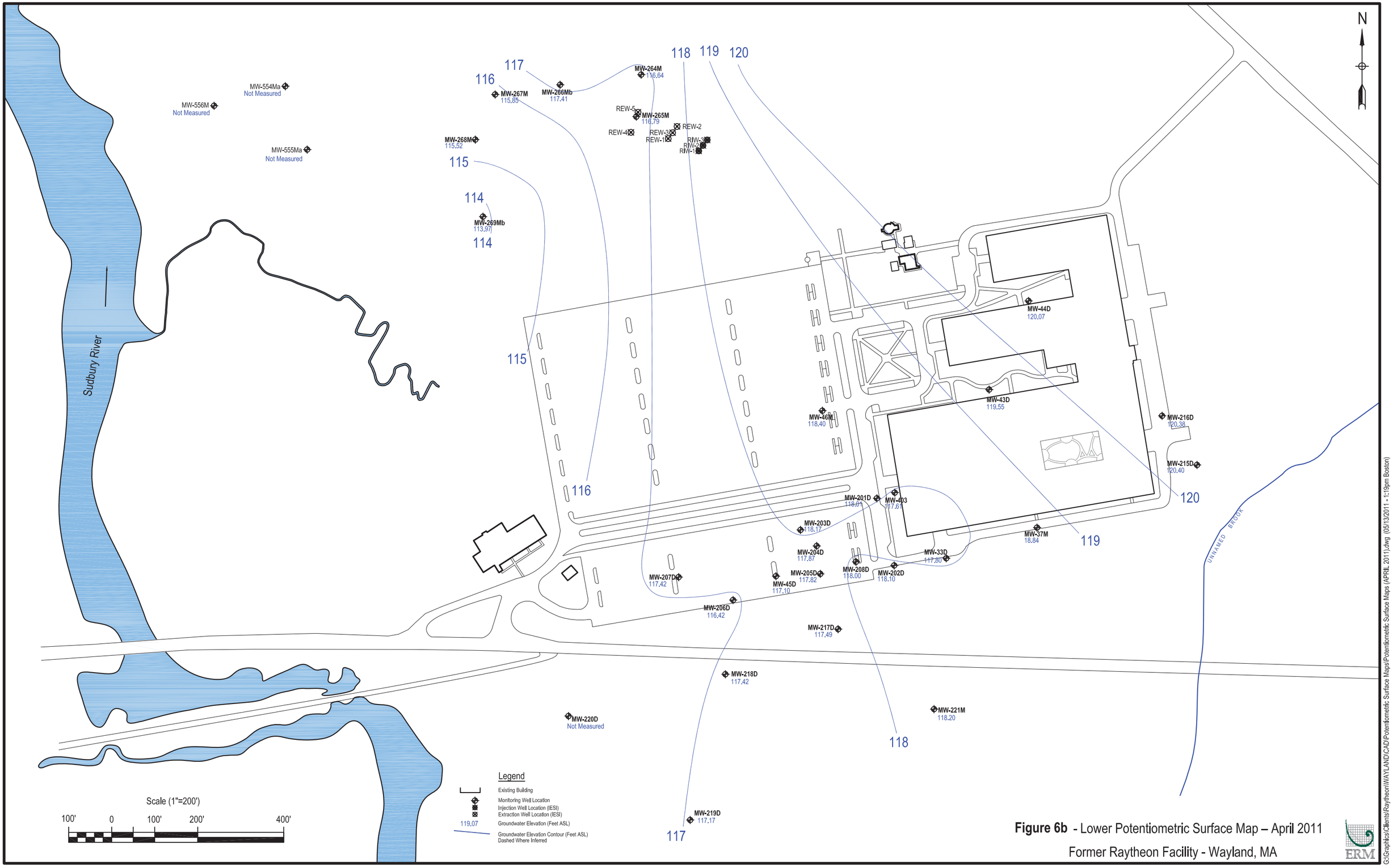



**Figure 6b** - Lower Potentiometric Surface Map – April 2011

Former Raytheon Facility - Wayland, MA

G:\Graphics\Clients\Raytheon\WAYLAND\CAD\Potentiometric Surface Maps\Potentiometric Surface Maps (APRIL 2011).dwg (05/13/2011 - 1:19pm Boston)

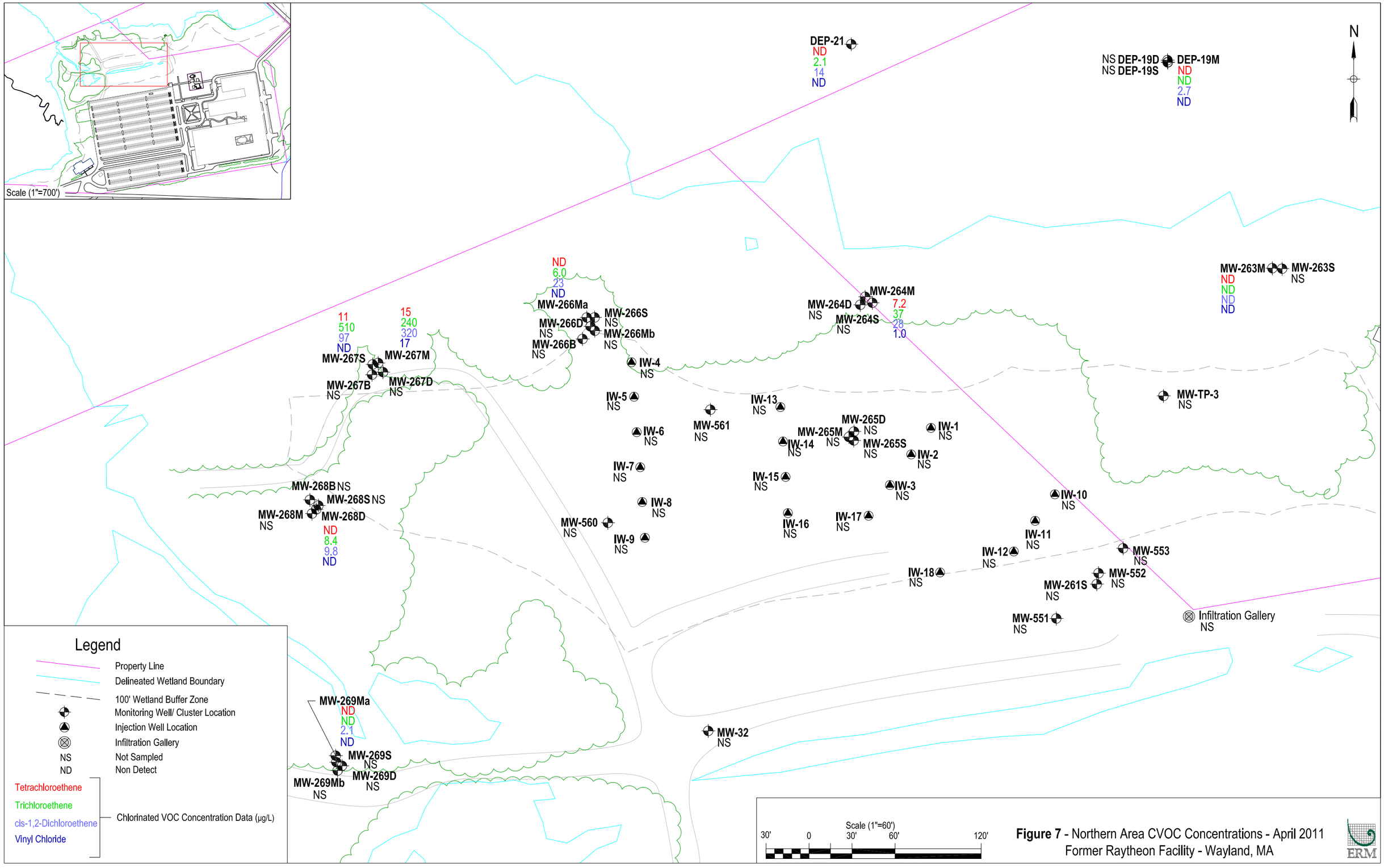
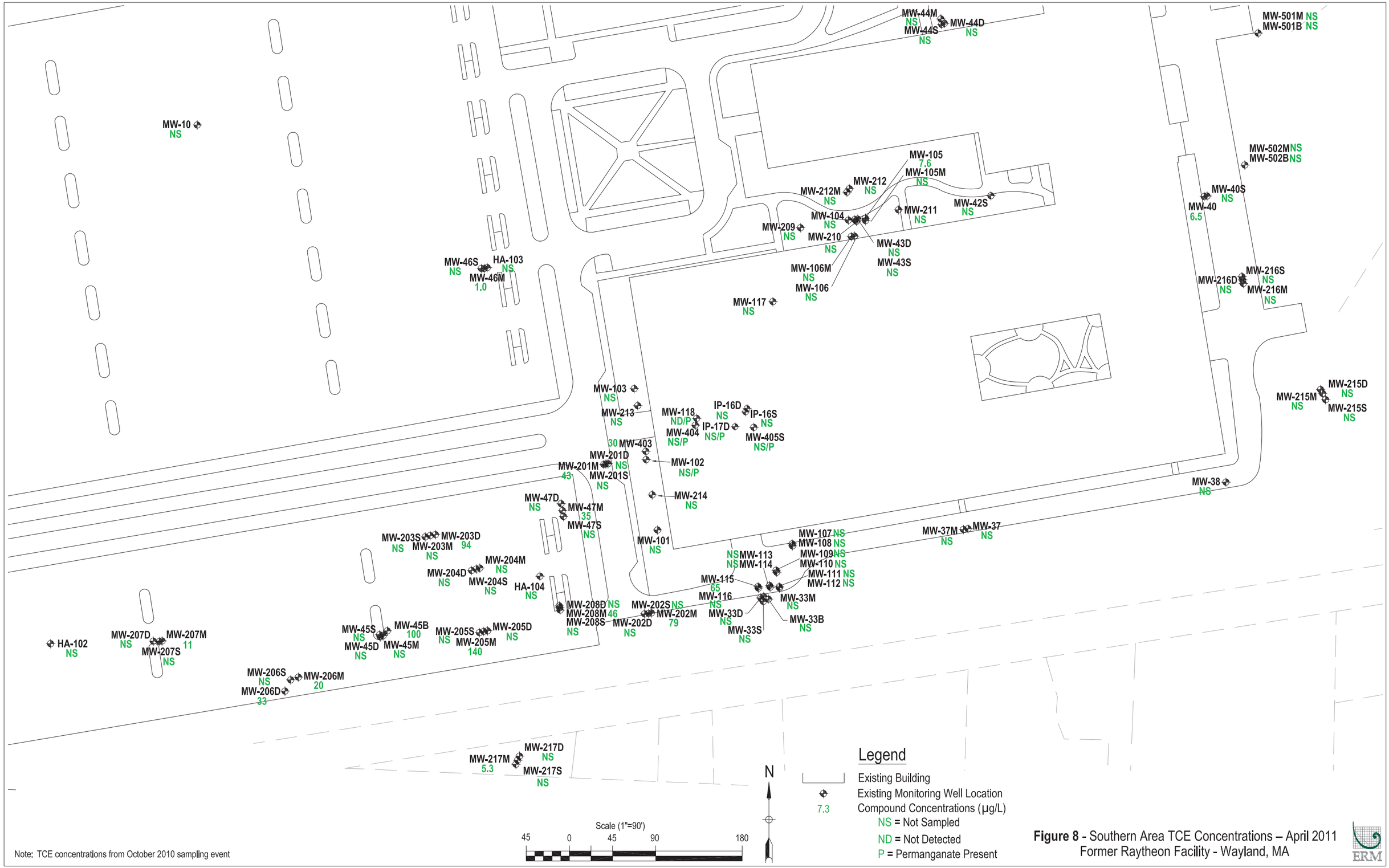



**Figure 7** - Northern Area CVOC Concentrations - April 2011
Former Raytheon Facility - Wayland, MA

G:\Graphics\Clients\Raytheon\WAYLAND\CAD\November2010\Northern Area CVOC Concentrations - July 2010.dwg (04/22/2011 - 12:42am Boston)




Note: TCE concentrations from October 2010 sampling event

**Figure 8** - Southern Area TCE Concentrations – April 2011
Former Raytheon Facility - Wayland, MA

*Appendix A*
*BWSC Forms*

**Massachusetts Department of Environmental Protection**
*Bureau of Waste Site Cleanup*

**BWSC108**

Release Tracking Number

3 - 13302

# COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

**A. SITE LOCATION:**

1. Site Name: **RAYTHEON COMPANY**

2. Street Address: **430 BOSTON POST RD**

3. City/Town: **WAYLAND** 4. ZIP Code: **01778-0000**

☐ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.

☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☐ d. Tier II

6. If applicable, provide the Permit Number:

**B. THIS FORM IS BEING USED** (check all that apply)

☐ 1. Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement**, pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report**. This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement**, pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement**, pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report**, pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Response Action Outcome.

☐ b. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) has been or will be submitted to DEP.

☐ d. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) has been or will be submitted to DEP.

**B. THIS FORM IS BEING USED TO (cont.):**(check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report**, pursuant to 310 CMR 40.0892.

☐ 16. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☐ iii. A Remedial Monitoring Report(s) submitted concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Class C RAO

d. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status**, pursuant to 310 CMR 40.0893.

☐ 18. Submit a **Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS)** , pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC104) will be submitted to DEP.

☐ b. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and/or that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Post-Class C Response Action Outcome Status Report**, pursuant to 310 CMR 40.0898.

**Massachusetts Department of Environmental Protection**
*Bureau of Waste Site Cleanup*

**BWSC108**

## COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number

3 - 13302

**C. LSP SIGNATURE AND STAMP:**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report****, a* ***Remedy Operation Status****, a* ***Phase IV, Phase V or Post-Class C RAO Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: **2196**

2. First Name: **JOHN C** 3. Last Name: **DROBINSKI**

4. Telephone: **(617) 646-7800** 5. Ext.: 6. FAX: **(617) 267-6447**

7. Signature:

8. Date: (mm/dd/yyyy)

9. LSP Stamp:

**Massachusetts Department of Environmental Protection**
*Bureau of Waste Site Cleanup*

**BWSC108**

Release Tracking Number

3 - 13302

# COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

**D. PERSON UNDERTAKING RESPONSE ACTIONS:**

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: RAYTHEON COMPANY

3. Contact First Name: LOUIS 4. Last Name: BURKHARDT

5. Street: 880 TECHNOLOGY PARK DR 6. Title:

7. City/Town: BILLERICA 8. State: MA 9. ZIP Code: 01821-0000

10. Telephone: (978) 436-8238 11. Ext.: 12. FAX: (978) 436-8581

**E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS:** ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☑ b. Operator ☐ c. Generator ☐ d. Transporter

☐ e. Other RP or PRP Specify:

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

**F. REQUIRED ATTACHMENT AND SUBMITTALS:**

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☐ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Name.
Send corrections to: BWSC.eDEP@state.ma.us.

☐ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

**Massachusetts Department of Environmental Protection**
*Bureau of Waste Site Cleanup*

**BWSC108**

Release Tracking Number

3 - 13302

## COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

**G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:**

1. I _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS)**, I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons perform ing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: _____ 3. Title: _____

Signature

4. For: _____ 5. Date: _____

(Name of person or entity recorded in Section D) (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (DEP USE ONLY:)

*Appendix B*
*Eastern Area Wells Boring Logs*

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-501M



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

**DATE STARTED** 11/23/10 **DATE COMPLETED** 11/23/10

**CONTRACTOR** Geosearch, Inc. **DRILLING METHOD** Drive and Wash

**BORING DIAMETER** 4 inches **GROUNDWATER LEVEL** Not measured

**LOGGED BY** J. Allen **CHECKED BY** J. Flattery

**NOTES**

| DEPTH (ft bgs) | RECOVERY % | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| 5 | | | | | **Well Construction Summary:** MW-501M<br>0 - 25 Grout.<br>25 - 28 Bentonite.<br>28 - 30 #2 Filter sand.<br>30 - 40 0.010" diameter PVC screen. | | |
| 10 | | | | | | | |
| 15 | | | | | | | Grout |
| 20 | | | | | | | |
| 25 | | | | | | | Bentonite |
| 30 | | | | | | | #2 Filter sand |
| 35 | | | | | | | 0.010" diameter PVC screen |
| 40 | | | | | | | |

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-501B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

**DATE STARTED** 11/24/10 **DATE COMPLETED** 11/29/10

**CONTRACTOR** Geosearch, Inc. **DRILLING METHOD** Drive and Wash

**BORING DIAMETER** 4 inches **GROUNDWATER LEVEL** Not measured

**LOGGED BY** S. Colella **CHECKED BY** J. Flattery

**NOTES**

USCS Low Plasticity Silty Clay; USCS Poorly-graded Sand; USCS Well-graded Sand; USCS Poorly-graded Sand with Silt; USCS Silty Sand; Boulders and cobbles; USCS Well-graded Sand with Silt; USCS Well-graded Gravelly Sand

| DEPTH (ft bgs) | RECOVERY % | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| | | | | | Not sampled. | | |
| | | | | | **Well Construction Summary:** MW-501B | | |
| 5 | | | | | | | |
| | | | | | 0 - 103.5 4" casing.<br>103.5 - 130 Open borehole. | | |
| 10 | | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |

*(Continued Next Page)*

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399 Boylston Street, 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-501B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

| DEPTH (ft bgs) | RECOVERY % | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| | | | | | Not sampled. *(continued)* | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| | | | | | 48.5 | | |
| 50 | 79 | 4-6-10-13 (16) | ML | | 49.2 CLAYEY SILT low plasticity, wet, gray. | 0.0 | |
| | | | SM | | 49.4 SILTY SAND wet, brown. | | |
| | | | SM | | 49.7 SAND silt, wet, brown. | 0.0 | |
| | | | SM | | 49.8 SILTY SAND wet, brown. | | |
| | | | SP | | 49.9 FINE TO MEDIUM SAND poorly graded, wet, gray. | | 4" casing |
| | | | | | Not sampled. | | |
| | | | | | 53.5 | | |
| 55 | 79 | 6-9-11-11 (20) | SW | | 53.6 COBBLE broken up by roller bit. | 0.2 | |
| | | | | | FINE TO MEDIUM SAND well graded, wet, brown. | | |
| | | | | | 55.1 | 0.0 | |
| | | | | | Not sampled. | | |
| | | | | | 58.5 | | |
| 60 | 63 | 10-12-11-12 (23) | SW | | 59.2 FINE TO MEDIUM SAND well graded, wet, brown. | | |
| | | | SW | | 59.7 FINE TO MEDIUM SAND fine sand, well graded, wet, brown. | 0.0 | |
| | | | | | Not sampled. | | |
| | | | | | | 0.0 | |
| | | | | | 63.5 | | |
| | | | SW | | 64.0 FINE TO MEDIUM SAND well graded, wet, light brown. | | |

*(Continued Next Page)*

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Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-501B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

| DEPTH (ft bgs) | RECOVERY % | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| 65 | 58 | 7-8-7-9 (15) | SW | | 64.1 FINE TO COARSE SAND well graded, wet, light brown. | 0.0 | |
| | | | SW | | 64.3 FINE TO MEDIUM SAND well graded, wet, light brown. *(continued)* | | |
| | | | SW | | 64.7 FINE TO COARSE SAND well graded, wet, light brown. | 0.0 | |
| | | | | | Not sampled. | | |
| | | | | | 68.5 | | |
| 70 | 58 | 8-12-12-11 (24) | SP | | 68.9 MEDIUM TO COARSE SAND poorly graded, wet, orange. | | |
| | | | SP | | 69.2 MEDIUM TO COARSE SAND poorly graded, wet, light brown. | 0.0 | |
| | | | SP | | 69.5 MEDIUM TO COARSE SAND poorly graded, wet, orange. | 0.0 | |
| | | | SP | | 69.7 MEDIUM TO COARSE SAND poorly graded, wet, light brown. | | |
| | | | | | Not sampled. | | |
| | | | | | 73.5 | | |
| 75 | 54 | 10-9-8-11 (17) | SP | | 73.8 FINE SAND wet, brown. | | |
| | | | SW | | 73.9 MEDIUM TO COARSE SAND well graded, wet, brown. | 0.5 | |
| | | | SP | | 74.1 FINE SAND wet, brown. | | |
| | | | SW | | 74.6 MEDIUM TO COARSE SAND well graded, wet, brown. | 0.5 | |
| | | | | | Not sampled. | | |
| | | | | | 78.5 | | |
| 80 | 67 | 5-5-9-9 (14) | SW | | 78.8 FINE TO MEDIUM SAND trace silt, wet, light brown. | | |
| | | | SP | | 79.8 FINE SAND trace silt, wet, light brown. | 0.0 | |
| | | | | | Not sampled. | 0.3 | |
| | | | | | 83.5 | | |
| 85 | 71 | 7-6-8-10 (14) | SP | | FINE SAND trace silt, tight, wet, gray. | 0.0 | |
| | | | | | 85.0 GRAVEL AND COBBLES. | 0.0 | |
| | | | | | 86.0 | | |
| | | | | | Not sampled. | | |
| | | | | | 88.5 | | |
| 90 | 46 | 31-15-14-16 (29) | SW | | 88.7 FINE TO COARSE SAND trace gravel, wet, gray. | | |
| | | | SW | | 89.0 MEDIUM TO COARSE SAND medium to coarse gravel, evidence of oxidation, | | |
| | | | SW | | 89.3 broken rock throughout, wet, gray. | 0.0 | |
| | | | GW | | 89.5 MEDIUM TO COARSE SAND cobbles, broken rock, well graded, wet, gray. | | |
| | | | | | MEDIUM TO COARSE GRAVEL cobbles, broken rock, well graded, wet, gray. | 0.0 | |
| | | | | | Not sampled. | | |
| 95 | | | | | 96.0 | | |
| | | | | | BEDROCK. | | |

*(Continued Next Page)*

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399 Boylston Street, 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-501B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

| DEPTH (ft bgs) | RECOVERY % | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| 100 | | | | | BEDROCK. *(continued)* | | |
| 105 | | | | | | | |
| 110 | | | | | | | |
| 115 | | | | | | | |
| 120 | | | | | | | Open borehole - no screen installed |
| 125 | | | | | | | |
| 130 | | | | | 130 0 | | |

Bottom of hole at 130.0 feet.

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Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-502M



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

**DATE STARTED** 11/23/10 **DATE COMPLETED** 11/23/10

**CONTRACTOR** Geosearch, Inc. **DRILLING METHOD** Drive and Wash

**BORING DIAMETER** 4 inches **GROUNDWATER LEVEL** Not measured

**LOGGED BY** J. Allen **CHECKED BY** J. Flattery

**NOTES**

| DEPTH (ft bgs) | RECOVERY % | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| 5 | | | | | **Well Construction Summary:** MW-502M<br>0 - 25 Grout.<br>25 - 28 Bentonite.<br>28 - 30 #2 Filter sand.<br>30 - 40 0.010" diameter PVC screen. | | |
| 10 | | | | | | | |
| 15 | | | | | | | Grout |
| 20 | | | | | | | |
| 25 | | | | | | | Bentonite |
| 30 | | | | | | | #2 Filter sand |
| 35 | | | | | | | 0.010" diameter PVC screen |
| 40 | | | | | | | |

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# WELL MW-502B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

**DATE STARTED** 12/1/10 **DATE COMPLETED** 12/3/10

**CONTRACTOR** Geosearch, Inc. **DRILLING METHOD** Mud Rotary, Coring, and Rollerbit

**BORING DIAMETER** 4 inches **GROUNDWATER LEVEL** Not measured

**LOGGED BY** J. Allen **CHECKED BY** J. Flattery

**NOTES**

USCS Silt
USCS Well-graded Sand with Silt
USCS Poorly-graded Sand with Silt
Bedrock

| DEPTH (ft bgs) | RECOVERY % (RQD) | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| | | | | | Not sampled. | | |
| | | | | | **Well Construction Summary:** MW-502B | | |
| 5 | | | | | | | |
| | | | | | 0 - 87 4" casing.<br>87 - 120 Open borehole. | | |
| 10 | | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |

*(Continued Next Page)*

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# WELL MW-502B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

| DEPTH (ft bgs) | RECOVERY % (RQD) | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| | | | | | Not sampled. *(continued)* | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | 4" casing |
| | | | | | 49.0 | | |
| 50 | 75 | 6-9-6-7 (15) | ML | | SILT trace fine sand and clay, several hard, dark gray clay lenses ~1 cm thick, medium stiff, wet, gray to dark gray. | 0.0 | |
| | | | | | 51.0 | 0.0 | |
| | | | | | Not sampled. | | |
| 55 | | | | | | | |
| | | | | | 59.0 | | |
| 60 | 73 | 5-6-8-10 (14) | SP | | FINE SAND trace silt, loose, wet, grayish brown. | 0.0 | |
| | | | | | 61.0 | 0.0 | |
| | | | | | Not sampled. | | |

*(Continued Next Page)*

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# WELL MW-502B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

| DEPTH (ft bgs) | RECOVERY % (RQD) | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| 65 | | | | | Not sampled. *(continued)* | | |
| 70 | | | | | | | |
| | | | | | 74.0 | | |
| 75 | 50 | 11-12-10-13 (22) | SW | | FINE TO COARSE SAND little silt, gravel (~1 in) in bottom 2 in, significant orange to red oxidation, medium dense, wet, tan to brown. | 0.0 | |
| | | | | | 76.0 | | |
| | | | | | Not sampled. | | |
| 80 | | | | | | | |
| 85 | | | | | | | |
| | | | | | 87.0 | | |
| 90 | 100 (84) | | | | BEDROCK strong, slightly fractured, fine to medium grained. Diorite/Gabbro. healed fractures and stringers throughout with chlorite, calcite, gray to light gray. | | |
| | | | | | 91.8 | | |
| 95 | 100 (60) | | | | BEDROCK moderate to strong, slightly fractured with significant breakage along healed fractures, some potassium feldspar and calcite, dark gray to gray. | | |
| | | | | | 96.8 | | |
| | 100 | | | | BEDROCK similar to above but more competant. Strong, slightly fractured; breaks along healed fractures, which have calcite and some potassium feldspar. Massive. Gabbro/Diorite., gray. | | |

*(Continued Next Page)*

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# WELL MW-502B



**Client:** Raytheon **Project Name:** Monitoring and Injection Wells

**Project Number:** 0114119 **Project Location:** Wayland, Massachusetts

| DEPTH (ft bgs) | RECOVERY % (RQD) | BLOW COUNTS (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|
| 100 | (90) | | | | 100 0 | | |
| | | | | | BEDROCK Rollerbit used, no samples collected. | | Open borehole - no screen installed |
| 105 | | | | | | | |
| 110 | | | | | | | |
| | | | | | Poss ble fracture. | | |
| 115 | | | | | | | |
| 120 | | | | | 120 0 | | |

Bottom of hole at 120.0 feet.

*Appendix C*
*Laboratory Analytical Reports*
*(Provided on CD)*

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1017740 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/10/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1017740-01 | EB-01-20101108-01 | WAYLAND, MA | 11/08/10 08:20 |
| L1017740-02 | EB-02-20101108-01 | WAYLAND, MA | 11/08/10 08:30 |
| L1017740-03 | ASP-101-20.2-20101108-01 | WAYLAND, MA | 11/08/10 10:08 |
| L1017740-04 | ASP-101-25.0-20101108-01 | WAYLAND, MA | 11/08/10 11:29 |
| L1017740-05 | ASP-102-20.0-20101108-01 | WAYLAND, MA | 11/08/10 11:38 |
| L1017740-06 | ASP-102-25.0-20101108-01 | WAYLAND, MA | 11/08/10 12:31 |
| L1017740-07 | ASP-101-38.5-20101108-01 | WAYLAND, MA | 11/08/10 12:43 |
| L1017740-08 | ASP-102-30.0-20101108-01 | WAYLAND, MA | 11/08/10 13:22 |
| L1017740-09 | ASP-101-46.35-20101108-01 | WAYLAND, MA | 11/08/10 13:38 |
| L1017740-10 | ASP-102-37.25-20101108-01 | WAYLAND, MA | 11/08/10 14:27 |
| L1017740-11 | ASP-101-51.6-20101108-01 | WAYLAND, MA | 11/08/10 14:28 |
| L1017740-12 | ASP-101-56.5-20101108-01 | WAYLAND, MA | 11/08/10 15:18 |
| L1017740-13 | ASP-102-42.34-20101108-01 | WAYLAND, MA | 11/08/10 15:44 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1017740
**Project Number:** 0114119 **Report Date:** 11/10/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

L1017740-09 and -11 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1017740-01 through 13, did not meet the method required minimum response factors for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The continuing calibration standard, associated with L1017740-01 through -13, is outside the acceptance

**Project Name:** RAYTHEON **Lab Number:** L1017740
**Project Number:** 0114119 **Report Date:** 11/10/10

**Case Narrative (continued)**

criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 11/10/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-01 | Date Collected: | 11/08/10 08:20 |
| Client ID: | EB-01-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/09/10 17:02 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-01 Date Collected: 11/08/10 08:20

Client ID: EB-01-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-01 | Date Collected: | 11/08/10 08:20 |
| Client ID: | EB-01-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-02 | Date Collected: | 11/08/10 08:30 |
| Client ID: | EB-02-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/09/10 17:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-02 Date Collected: 11/08/10 08:30

Client ID: EB-02-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-02 | Date Collected: | 11/08/10 08:30 |
| Client ID: | EB-02-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-03 | Date Collected: | 11/08/10 10:08 |
| Client ID: | ASP-101-20.2-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 06:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-03 Date Collected: 11/08/10 10:08

Client ID: ASP-101-20.2-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-03 | Date Collected: | 11/08/10 10:08 |
| Client ID: | ASP-101-20.2-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-04 | Date Collected: | 11/08/10 11:29 |
| Client ID: | ASP-101-25.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 07:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-04 Date Collected: 11/08/10 11:29

Client ID: ASP-101-25.0-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-04 | Date Collected: | 11/08/10 11:29 |
| Client ID: | ASP-101-25.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-05 | Date Collected: | 11/08/10 11:38 |
| Client ID: | ASP-102-20.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 07:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-05 Date Collected: 11/08/10 11:38

Client ID: ASP-102-20.0-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-05 | Date Collected: | 11/08/10 11:38 |
| Client ID: | ASP-102-20.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-06 | Date Collected: | 11/08/10 12:31 |
| Client ID: | ASP-102-25.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 08:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-06 Date Collected: 11/08/10 12:31

Client ID: ASP-102-25.0-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-06 | Date Collected: | 11/08/10 12:31 |
| Client ID: | ASP-102-25.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-07 | Date Collected: | 11/08/10 12:43 |
| Client ID: | ASP-101-38.5-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 08:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-07 Date Collected: 11/08/10 12:43

Client ID: ASP-101-38.5-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-07 | Date Collected: | 11/08/10 12:43 |
| Client ID: | ASP-101-38.5-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-08 | Date Collected: | 11/08/10 13:22 |
| Client ID: | ASP-102-30.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 09:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-08 Date Collected: 11/08/10 13:22

Client ID: ASP-102-30.0-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-08 | Date Collected: | 11/08/10 13:22 |
| Client ID: | ASP-102-30.0-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-09 D | Date Collected: | 11/08/10 13:38 |
| Client ID: | ASP-101-46.35-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 09:37 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroform | ND | | ug/l | 2.5 | -- | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Tetrachloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Benzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Toluene | ND | | ug/l | 2.5 | -- | 2.5 |
| Ethylbenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Vinyl chloride | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichloroethene | 200 | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-09 D Date Collected: 11/08/10 13:38

Client ID: ASP-101-46.35-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 5.0 | -- | 2.5 |
| p/m-Xylene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Xylene | ND | | ug/l | 2.5 | -- | 2.5 |
| cis-1,2-Dichloroethene | 7.2 | | ug/l | 2.5 | -- | 2.5 |
| Dibromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Styrene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Acetone | ND | | ug/l | 12 | -- | 2.5 |
| Carbon disulfide | ND | | ug/l | 5.0 | -- | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | -- | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | -- | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | -- | 2.5 |
| Bromochloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Tetrahydrofuran | ND | | ug/l | 25 | -- | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Bromobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 1.5 | -- | 2.5 |
| Isopropylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| Naphthalene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Propylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl ether | ND | | ug/l | 5.0 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-09 D Date Collected: 11/08/10 13:38

Client ID: ASP-101-46.35-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,4-Dioxane | ND | | ug/l | 620 | -- | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-10 | Date Collected: | 11/08/10 14:27 |
| Client ID: | ASP-102-37.25-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 10:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-10 Date Collected: 11/08/10 14:27

Client ID: ASP-102-37.25-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-10 | Date Collected: | 11/08/10 14:27 |
| Client ID: | ASP-102-37.25-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 111 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-11 D | Date Collected: | 11/08/10 14:28 |
| Client ID: | ASP-101-51.6-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 10:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | -- | 5 |
| 1,1-Dichloroethane | ND | | ug/l | 5.0 | -- | 5 |
| Chloroform | ND | | ug/l | 5.0 | -- | 5 |
| Carbon tetrachloride | ND | | ug/l | 5.0 | -- | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 5 |
| Dibromochloromethane | ND | | ug/l | 5.0 | -- | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 5.0 | -- | 5 |
| Tetrachloroethene | ND | | ug/l | 5.0 | -- | 5 |
| Chlorobenzene | ND | | ug/l | 5.0 | -- | 5 |
| Trichlorofluoromethane | ND | | ug/l | 10 | -- | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 5.0 | -- | 5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 5.0 | -- | 5 |
| Bromodichloromethane | ND | | ug/l | 5.0 | -- | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | -- | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | -- | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | -- | 5 |
| Bromoform | ND | | ug/l | 10 | -- | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 5.0 | -- | 5 |
| Benzene | ND | | ug/l | 5.0 | -- | 5 |
| Toluene | ND | | ug/l | 5.0 | -- | 5 |
| Ethylbenzene | ND | | ug/l | 5.0 | -- | 5 |
| Chloromethane | ND | | ug/l | 10 | -- | 5 |
| Bromomethane | ND | | ug/l | 10 | -- | 5 |
| Vinyl chloride | ND | | ug/l | 5.0 | -- | 5 |
| Chloroethane | ND | | ug/l | 10 | -- | 5 |
| 1,1-Dichloroethene | ND | | ug/l | 5.0 | -- | 5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 5.0 | -- | 5 |
| Trichloroethene | 320 | | ug/l | 5.0 | -- | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 5 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-11 D Date Collected: 11/08/10 14:28

Client ID: ASP-101-51.6-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 5 |
| Methyl tert butyl ether | ND | | ug/l | 10 | -- | 5 |
| p/m-Xylene | ND | | ug/l | 10 | -- | 5 |
| o-Xylene | ND | | ug/l | 5.0 | -- | 5 |
| cis-1,2-Dichloroethene | 8.6 | | ug/l | 5.0 | -- | 5 |
| Dibromomethane | ND | | ug/l | 10 | -- | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | -- | 5 |
| Styrene | ND | | ug/l | 5.0 | -- | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 10 | -- | 5 |
| Acetone | ND | | ug/l | 25 | -- | 5 |
| Carbon disulfide | ND | | ug/l | 10 | -- | 5 |
| 2-Butanone | ND | | ug/l | 25 | -- | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | -- | 5 |
| 2-Hexanone | ND | | ug/l | 25 | -- | 5 |
| Bromochloromethane | ND | | ug/l | 10 | -- | 5 |
| Tetrahydrofuran | ND | | ug/l | 50 | -- | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | -- | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | -- | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | -- | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 5.0 | -- | 5 |
| Bromobenzene | ND | | ug/l | 10 | -- | 5 |
| n-Butylbenzene | ND | | ug/l | 10 | -- | 5 |
| sec-Butylbenzene | ND | | ug/l | 10 | -- | 5 |
| tert-Butylbenzene | ND | | ug/l | 10 | -- | 5 |
| o-Chlorotoluene | ND | | ug/l | 10 | -- | 5 |
| p-Chlorotoluene | ND | | ug/l | 10 | -- | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | -- | 5 |
| Hexachlorobutadiene | ND | | ug/l | 3.0 | -- | 5 |
| Isopropylbenzene | ND | | ug/l | 10 | -- | 5 |
| p-Isopropyltoluene | ND | | ug/l | 10 | -- | 5 |
| Naphthalene | ND | | ug/l | 10 | -- | 5 |
| n-Propylbenzene | ND | | ug/l | 10 | -- | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | -- | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | -- | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | -- | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | -- | 5 |
| Ethyl ether | ND | | ug/l | 10 | -- | 5 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-11 D Date Collected: 11/08/10 14:28

Client ID: ASP-101-51.6-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 10 | -- | 5 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 10 | -- | 5 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 10 | -- | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | -- | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 109 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-12 | Date Collected: | 11/08/10 15:18 |
| Client ID: | ASP-101-56.5-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 11:12 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.9 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 56 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-12 Date Collected: 11/08/10 15:18

Client ID: ASP-101-56.5-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 3.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-12 | Date Collected: | 11/08/10 15:18 |
| Client ID: | ASP-101-56.5-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-13 | Date Collected: | 11/08/10 15:44 |
| Client ID: | ASP-102-42.34-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 11:43 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 3.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 24 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

Lab ID: L1017740-13 Date Collected: 11/08/10 15:44

Client ID: ASP-102-42.34-20101108-01 Date Received: 11/08/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017740-13 | Date Collected: | 11/08/10 15:44 |
| Client ID: | ASP-102-42.34-20101108-01 | Date Received: | 11/08/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/09/10 08:06
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG442087-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/09/10 08:06
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG442087-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/09/10 08:06
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG442087-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| D bromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 05:57
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-13 Batch: WG442275-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 05:57
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-13 Batch: WG442275-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017740

**Project Number:** 0114119 **Report Date:** 11/10/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 05:57
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-13 Batch: WG442275-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG442087-1 WG442087-2 | | | | | | | | |
| Methylene chloride | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 96 | | 94 | | 70-130 | 2 | | 20 |
| Chloroform | 96 | | 95 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 85 | | 88 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 95 | | 95 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 84 | | 82 | | 70-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 91 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 88 | | 86 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,2-Dichloroethane | 94 | | 91 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 86 | | 89 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 77 | | 79 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 81 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Bromoform | 84 | | 87 | | 70-130 | 4 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 91 | | 70-130 | 5 | | 20 |
| Benzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Toluene | 91 | | 90 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 91 | | 92 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG442087-1 WG442087-2 | | | | | | | | |
| Chloromethane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Bromomethane | 97 | | 93 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 93 | | 97 | | 70-130 | 4 | | 20 |
| Chloroethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 97 | | 97 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Trichloroethene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 90 | | 85 | | 70-130 | 6 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 85 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 96 | | 87 | | 70-130 | 10 | | 20 |
| p/m-Xylene | 90 | | 90 | | 70-130 | 0 | | 20 |
| o-Xylene | 93 | | 91 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Dibromomethane | 104 | | 104 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 96 | | 70-130 | 3 | | 20 |
| Styrene | 92 | | 88 | | 70-130 | 4 | | 20 |
| Dichlorodifluoromethane | 79 | | 79 | | 70-130 | 0 | | 20 |
| Acetone | 97 | | 98 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 96 | | 97 | | 70-130 | 1 | | 20 |
| 2-Butanone | 105 | | 95 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG442087-1 WG442087-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 93 | | 97 | | 70-130 | 4 | | 20 |
| 2-Hexanone | 97 | | 87 | | 70-130 | 11 | | 20 |
| Bromochloromethane | 91 | | 94 | | 70-130 | 3 | | 20 |
| Tetrahydrofuran | 94 | | 88 | | 70-130 | 7 | | 20 |
| 2,2-Dichloropropane | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 78 | | 79 | | 70-130 | 1 | | 20 |
| Bromobenzene | 89 | | 87 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 75 | | 72 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 91 | | 87 | | 70-130 | 4 | | 20 |
| tert-Butylbenzene | 90 | | 87 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 89 | | 87 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 89 | | 87 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 86 | | 92 | | 70-130 | 7 | | 20 |
| Hexachlorobutadiene | 85 | | 83 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 90 | | 89 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Naphthalene | 87 | | 82 | | 70-130 | 6 | | 20 |
| n-Propylbenzene | 93 | | 91 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 79 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG442087-1 WG442087-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 81 | | 79 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 91 | | 87 | | 70-130 | 4 | | 20 |
| Ethyl ether | 100 | | 93 | | 70-130 | 7 | | 20 |
| Isopropyl Ether | 96 | | 90 | | 70-130 | 6 | | 20 |
| Ethyl-Tert-Butyl-Ether | 92 | | 87 | | 70-130 | 6 | | 20 |
| Tertiary-Amyl Methyl Ether | 98 | | 94 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 109 | | 111 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 94 | | 70-130 |
| Toluene-d8 | 99 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 98 | | 70-130 |
| Dibromofluoromethane | 102 | | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-13 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| Methylene chloride | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 99 | | 98 | | 70-130 | 1 | | 20 |
| Chloroform | 101 | | 101 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 88 | | 95 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 97 | | 98 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 99 | | 70-130 | 1 | | 20 |
| Tetrachloroethene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 119 | | 111 | | 70-130 | 7 | | 20 |
| 1,2-Dichloroethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 79 | | 82 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 84 | | 84 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Bromoform | 83 | | 92 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Benzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Toluene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 98 | | 97 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-13 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| Chloromethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Bromomethane | 97 | | 95 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 102 | | 101 | | 70-130 | 1 | | 20 |
| Chloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 101 | | 101 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 97 | | 70-130 | 3 | | 20 |
| Trichloroethene | 99 | | 99 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 82 | | 84 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 96 | | 97 | | 70-130 | 1 | | 20 |
| o-Xylene | 95 | | 94 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 101 | | 102 | | 70-130 | 1 | | 20 |
| Dibromomethane | 109 | | 110 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 97 | | 100 | | 70-130 | 3 | | 20 |
| Styrene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 82 | | 83 | | 70-130 | 1 | | 20 |
| Acetone | 89 | | 90 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 94 | | 96 | | 70-130 | 2 | | 20 |
| 2-Butanone | 84 | | 92 | | 70-130 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-13 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 85 | | 79 | | 70-130 | 7 | | 20 |
| 2-Hexanone | 81 | | 79 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 101 | | 96 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 85 | | 81 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 93 | | 96 | | 70-130 | 3 | | 20 |
| 1,2-Dibromoethane | 95 | | 97 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 83 | | 86 | | 70-130 | 4 | | 20 |
| Bromobenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 80 | | 78 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 95 | | 94 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 92 | | 94 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Hexachlorobutadiene | 85 | | 90 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Naphthalene | 86 | | 83 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 82 | | 81 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-13 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 82 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Ethyl ether | 89 | | 97 | | 70-130 | 9 | | 20 |
| Isopropyl Ether | 88 | | 89 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 80 | | 83 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 86 | | 90 | | 70-130 | 5 | | 20 |
| 1,4-Dioxane | 93 | | 90 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 94 | | 70-130 |
| Toluene-d8 | 99 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 100 | | 70-130 |
| Dibromofluoromethane | 102 | | 101 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017740
**Report Date:** 11/10/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1017740-01A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-01B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-02A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-02B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-03A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-03B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-04A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-04B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-05A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-05B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-06A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-06B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-07A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-07B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-08A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-08B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-09A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-09B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-10A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-10B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-11A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-11B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-12A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-12B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-13A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017740-13B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1017740
**Project Number:** 0114119 **Report Date:** 11/10/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1017740 |
| **Project Number:** | 0114119 | **Report Date:** | 11/10/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1017740
**Project Number:** 0114119 **Report Date:** 11/10/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/8/10

ALPHA Job #: L1017740

**Client Information**

Client: ERM

Address: 399 Boylston St, Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: jason.flattery@erm.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon

Project Location: Wayland, MA

Project #: 0114119

Project Manager: J. Flattery

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr

Date Due: 11/10/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program MA MCP Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 17740 1 | EB-01-20101108-01 | 11/8/10 | 820 | GW | BK | X | | |
| 2 | EB-02-20101108-01 | ↓ | 830 | ↓ | ↓ | X | | |
| 3 | APS-101-20.2-20101108-01 | ↓ | 1008 | ↓ | ↓ | X | | |
| 4 | APS-101-25.0-20101108-01 | ↓ | 1129 | ↓ | ↓ | X | | |
| 5 | APS-102-20.0-20101108-01 | ↓ | 1138 | ↓ | ↓ | X | | |
| 6 | APS-102-25.0-20101108-01 | ↓ | 1231 | ↓ | ↓ | X | | |
| 7 | APS-101-38.5-20101108-01 | ↓ | 1243 | ↓ | ↓ | X | | |
| 8 | APS-102-30.0-20101108-01 | ↓ | 1322 | ↓ | ↓ | X | | |
| 9 | APS-101-46.35-20101108-01 | ↓ | 1338 | ↓ | ↓ | X | | |
| 10 | APS-102-37.25-20101108-01 | ↓ | 1427 | ↓ | ↓ | X | | |

Container Type: 3 VOA

Preservative: HCl

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] 11-8-10 | 11/8/10 1613 | [illegible] 1700 | 11/8/10 16[illegible] |
| | | [illegible] 11/8/10 | 17[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 11/8/10

ALPHA Job #: 1017740

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon
Project Location: Wayland, MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 11/10/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program MA MCP Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 17740 11 | APS-101-51.6-20101108-01 | 11/8/10 | 1428 | GW | BK | X | | |
| 12 | APS-101-56.5-20101108-01 | ↓ | 1518 | ↓ | ↓ | X | | |
| 13 | APS-102-42.34-20101108-01 | ↓ | 1544 | ↓ | ↓ | X | | |

Container Type
Preservative

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/8/10 1613 | [signature] | 11/8/10 1613 |
| [signature] | 11-8/10 17[illegible] | [signature] | 11/8/10 17[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017740

Instrument ID: Quimby.i  Calibration Date: 10-NOV-2010  Time: 04:54

Lab File ID: 1110A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .34345 | .1 | 18 | 20 | |
| chloromethane | .62163 | .58384 | .1 | 6 | 20 | |
| vinyl chloride | .4285 | .43551 | .1 | -2 | 20 | |
| bromomethane | .32572 | .3156 | .1 | 3 | 20 | |
| chloroethane | .35035 | .35238 | .1 | -1 | 20 | |
| trichlorofluoromethane | .6241 | .74018 | .1 | -19 | 20 | |
| ethyl ether | .13811 | .12317 | .05 | 11 | 20 | |
| acetone | 100 | 89.239 | .1 | 11 | 20 | |
| 1,1,-dichloroethene | .31495 | .31742 | .1 | -1 | 20 | |
| methylene chloride | .34246 | .33889 | .1 | 1 | 20 | |
| carbon disulfide | .90993 | .85074 | .1 | 7 | 20 | |
| methyl tert butyl ether | .48005 | .39134 | .1 | 18 | 20 | |
| trans-1,2-dichloroethene | .36264 | .34247 | .1 | 6 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0243 | .05 | 12 | 20 | |
| 1,1-dichloroethane | .70419 | .69586 | .2 | 1 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .5866 | .05 | 19 | 20 | |
| 2-butanone | .06714 | .05652 | .1 | 16 | 20 | F |
| 2,2-dichloropropane | .34238 | .31712 | .05 | 7 | 20 | |
| cis-1,2-dichloroethene | .37932 | .38228 | .1 | -1 | 20 | |
| chloroform | .61594 | .62473 | .2 | -1 | 20 | |
| bromochloromethane | .12887 | .12988 | .05 | -1 | 20 | |
| tetrahydrofuran | .04454 | .03791 | .05 | 15 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .44247 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .52258 | .5026 | .05 | 4 | 20 | |
| carbontetrachloride | .35402 | .31043 | .1 | 12 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .40321 | .05 | 14 | 20 | |
| 1,2-dichloroethane | .39579 | .3725 | .1 | 6 | 20 | |
| benzene | 1.5397 | 1.5366 | .5 | 0 | 20 | |
| trichloroethene | .37211 | .36811 | .2 | 1 | 20 | |
| 1,2-dichloropropane | .35603 | .34613 | .1 | 3 | 20 | |
| bromodichloromethane | .35384 | .32171 | .2 | 9 | 20 | |
| 1,4-dioxane | .00109 | .00102 | .05 | 7 | 20 | F |
| dibromomethane | .12703 | .13797 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04121 | .1 | 15 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .34773 | .2 | 16 | 20 | |
| toluene | 1.2794 | 1.2089 | .4 | 6 | 20 | |
| trans-1,3-dichloropropene | .38217 | .30234 | .1 | 21 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .21315 | .1 | 2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017740

Instrument ID: Quimby.i  Calibration Date: 10-NOV-2010  Time: 04:54

Lab File ID: 1110A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10176 | .1 | 19 | 20 | |
| 1,3-dichloropropane | .48008 | .473 | .05 | 1 | 20 | |
| tetrachloroethene | .50656 | .48444 | .2 | 4 | 20 | |
| chlorodibromomethane | .22898 | .19552 | .1 | 15 | 20 | |
| 1,2-dibromoethane | .21845 | .20765 | .1 | 5 | 20 | |
| chlorobenzene | 1.3784 | 1.2685 | .5 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .28193 | .05 | 17 | 20 | |
| ethyl benzene | 2.6402 | 2.5952 | .1 | 2 | 20 | |
| p/m xylene | 1.0415 | 1.0043 | .1 | 4 | 20 | |
| o xylene | .99264 | .93999 | .3 | 5 | 20 | |
| styrene | 1.5901 | 1.4641 | .31 | 8 | 20 | |
| isopropylbenzene | 2.7063 | 2.6194 | .1 | 3 | 20 | |
| bromoform | .16937 | .13989 | .1 | 17 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .44699 | .3 | 2 | 20 | |
| 1,2,3-trichloropropane | .359 | .34971 | .05 | 3 | 20 | |
| n-propylbenzene | 5.3817 | 5.2415 | .05 | 3 | 20 | |
| bromobenzene | .8701 | .79931 | .05 | 8 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.4049 | .05 | 9 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3800 | .05 | 6 | 20 | |
| 4-chorotoluene | 3.3404 | 3.0824 | .05 | 8 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8495 | .05 | 7 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4911 | .05 | 7 | 20 | |
| sec-butylbenzene | 4.6047 | 4.3857 | .05 | 5 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.5491 | .05 | 1 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.7031 | .6 | 9 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7179 | .5 | 4 | 20 | |
| n-butylbenzene | 4.0323 | 3.218 | .05 | 20 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4699 | .4 | 7 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 95.974 | .05 | 4 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .66986 | .2 | 16 | 20 | |
| hexachlorobutadiene | .39925 | .33966 | .05 | 15 | 20 | |
| naphthalene | 1.1650 | .99828 | .05 | 14 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .48809 | .05 | 18 | 20 | |
| dibromofluoromethane | .2204 | .22434 | .05 | -2 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21545 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.2873 | .05 | 1 | 20 | |
| 4-bromofluorobenzene | .89239 | .85698 | .05 | 4 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1017822 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/11/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1017822-01 | EB-03-20101109-01 | WAYLAND, MA | 11/09/10 08:15 |
| L1017822-02 | APS-102-49.3-20101108-01 | WAYLAND, MA | 11/08/10 17:01 |
| L1017822-03 | APS-101-61.6-20101108-01 | WAYLAND, MA | 11/08/10 16:17 |
| L1017822-04 | APS-102-66.4-20101109-01 | WAYLAND, MA | 11/09/10 08:25 |
| L1017822-05 | APS-101-65.4-20101109-01 | WAYLAND, MA | 11/09/10 07:45 |
| L1017822-06 | APS-102-75.6-20101109-01 | WAYLAND, MA | 11/09/10 11:48 |
| L1017822-07 | APS-102-71.7-20101109-01 | WAYLAND, MA | 11/09/10 10:00 |
| L1017822-08 | APS-103-39.1-20101109-01 | WAYLAND, MA | 11/09/10 11:22 |
| L1017822-09 | EB-04-20101109-01 | WAYLAND, MA | 11/09/10 12:35 |
| L1017822-10 | APS-103-23.8-20101109-01 | WAYLAND, MA | 11/09/10 10:30 |
| L1017822-11 | APS-104-20.0-20101109-01 | WAYLAND, MA | 11/09/10 14:06 |
| L1017822-12 | APS-103-69.0-20101109-01 | WAYLAND, MA | 11/09/10 14:07 |
| L1017822-13 | APS-104-25.0-20101109-01 | WAYLAND, MA | 11/09/10 14:50 |
| L1017822-14 | APS-105-20.0-20101109-01 | WAYLAND, MA | 11/09/10 15:33 |
| L1017822-15 | APS-104-30.0-20101109-01 | WAYLAND, MA | 11/09/10 15:49 |
| L1017822-16 | APS-105-25.0-20101109-01 | WAYLAND, MA | 11/09/10 16:11 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1017822
**Project Number:** 0114119 **Report Date:** 11/11/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

L1017822-02 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG442468-1/-2 LCS/LCSD recoveries, associated with L1017822-02 through -08 and -10 through -13, are outside the acceptance criteria for two compounds; however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for Dichlorodifluoromethane (67%/68%) and a potentially high bias for 1,4-Dioxane (LCS at 132%).

**Project Name:** RAYTHEON **Lab Number:** L1017822
**Project Number:** 0114119 **Report Date:** 11/11/10

**Case Narrative (continued)**

The WG442489-1 LCS recovery, associated with L1017822-14, -15 and -16, is below the individual acceptance criteria for trans-1,3-Dichloropropene (67%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The initial calibration, associated with L1017822-01 through -16, did not meet the method required minimum response factor for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The continuing calibration standards, associated with L1017822-01 through -16, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/11/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-01 | Date Collected: | 11/09/10 08:15 |
| Client ID: | EB-03-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 12:15 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-01 Date Collected: 11/09/10 08:15

Client ID: EB-03-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-01 | Date Collected: | 11/09/10 08:15 |
| Client ID: | EB-03-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-02 D | Date Collected: | 11/08/10 17:01 |
| Client ID: | APS-102-49.3-20101108-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 15:48 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroform | ND | | ug/l | 2.5 | -- | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Tetrachloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,1-Trichloroethane | 33 | | ug/l | 2.5 | -- | 2.5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Benzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Toluene | ND | | ug/l | 2.5 | -- | 2.5 |
| Ethylbenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Vinyl chloride | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethene | 4.1 | | ug/l | 2.5 | -- | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichloroethene | 150 | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-02 D Date Collected: 11/08/10 17:01

Client ID: APS-102-49.3-20101108-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Methyl tert butyl ether | 15 | | ug/l | 5.0 | -- | 2.5 |
| p/m-Xylene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Xylene | ND | | ug/l | 2.5 | -- | 2.5 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Styrene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Acetone | ND | | ug/l | 12 | -- | 2.5 |
| Carbon disulfide | ND | | ug/l | 5.0 | -- | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | -- | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | -- | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | -- | 2.5 |
| Bromochloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Tetrahydrofuran | ND | | ug/l | 25 | -- | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Bromobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 1.5 | -- | 2.5 |
| Isopropylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| Naphthalene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Propylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl ether | ND | | ug/l | 5.0 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-02 D Date Collected: 11/08/10 17:01

Client ID: APS-102-49.3-20101108-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,4-Dioxane | ND | | ug/l | 620 | -- | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-03 | Date Collected: | 11/08/10 16:17 |
| Client ID: | APS-101-61.6-20101108-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 16:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-03 Date Collected: 11/08/10 16:17

Client ID: APS-101-61.6-20101108-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-03 | Date Collected: | 11/08/10 16:17 |
| Client ID: | APS-101-61.6-20101108-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-04 | Date Collected: | 11/09/10 08:25 |
| Client ID: | APS-102-66.4-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 16:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 28 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-04 Date Collected: 11/09/10 08:25

Client ID: APS-102-66.4-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-04 | Date Collected: | 11/09/10 08:25 |
| Client ID: | APS-102-66.4-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-05 | Date Collected: | 11/09/10 07:45 |
| Client ID: | APS-101-65.4-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 17:22 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-05 Date Collected: 11/09/10 07:45

Client ID: APS-101-65.4-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-05 | Date Collected: | 11/09/10 07:45 |
| Client ID: | APS-101-65.4-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-06 | Date Collected: | 11/09/10 11:48 |
| Client ID: | APS-102-75.6-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 17:54 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 57 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-06 Date Collected: 11/09/10 11:48

Client ID: APS-102-75.6-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 22 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-06 | Date Collected: | 11/09/10 11:48 |
| Client ID: | APS-102-75.6-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 109 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-07 | Date Collected: | 11/09/10 10:00 |
| Client ID: | APS-102-71.7-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 18:25 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 48 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-07 Date Collected: 11/09/10 10:00

Client ID: APS-102-71.7-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-07 | Date Collected: | 11/09/10 10:00 |
| Client ID: | APS-102-71.7-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-08 | Date Collected: | 11/09/10 11:22 |
| Client ID: | APS-103-39.1-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 18:57 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 11 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-08 Date Collected: 11/09/10 11:22

Client ID: APS-103-39.1-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-08 | Date Collected: | 11/09/10 11:22 |
| Client ID: | APS-103-39.1-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-09 | Date Collected: | 11/09/10 12:35 |
| Client ID: | EB-04-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 12:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-09 Date Collected: 11/09/10 12:35

Client ID: EB-04-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-09 | Date Collected: | 11/09/10 12:35 |
| Client ID: | EB-04-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-10 | Date Collected: | 11/09/10 10:30 |
| Client ID: | APS-103-23.8-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 19:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 5.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-10 Date Collected: 11/09/10 10:30

Client ID: APS-103-23.8-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-10 | Date Collected: | 11/09/10 10:30 |
| Client ID: | APS-103-23.8-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-11 | Date Collected: | 11/09/10 14:06 |
| Client ID: | APS-104-20.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 20:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-11 Date Collected: 11/09/10 14:06

Client ID: APS-104-20.0-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-11 | Date Collected: | 11/09/10 14:06 |
| Client ID: | APS-104-20.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-12 | Date Collected: | 11/09/10 14:07 |
| Client ID: | APS-103-69.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 20:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-12 Date Collected: 11/09/10 14:07

Client ID: APS-103-69.0-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-12 | Date Collected: | 11/09/10 14:07 |
| Client ID: | APS-103-69.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-13 | Date Collected: | 11/09/10 14:50 |
| Client ID: | APS-104-25.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/10/10 21:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-13 Date Collected: 11/09/10 14:50

Client ID: APS-104-25.0-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-13 | Date Collected: | 11/09/10 14:50 |
| Client ID: | APS-104-25.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-14 | Date Collected: | 11/09/10 15:33 |
| Client ID: | APS-105-20.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 06:58 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-14 Date Collected: 11/09/10 15:33

Client ID: APS-105-20.0-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-14 | Date Collected: | 11/09/10 15:33 |
| Client ID: | APS-105-20.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-15 | Date Collected: | 11/09/10 15:49 |
| Client ID: | APS-104-30.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 07:29 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-15 Date Collected: 11/09/10 15:49

Client ID: APS-104-30.0-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-15 | Date Collected: | 11/09/10 15:49 |
| Client ID: | APS-104-30.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-16 | Date Collected: | 11/09/10 16:11 |
| Client ID: | APS-105-25.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 08:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

Lab ID: L1017822-16 Date Collected: 11/09/10 16:11

Client ID: APS-105-25.0-20101109-01 Date Received: 11/09/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017822-16 | Date Collected: | 11/09/10 16:11 |
| Client ID: | APS-105-25.0-20101109-01 | Date Received: | 11/09/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 05:57
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,09 Batch: WG442275-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 05:57
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,09 Batch: WG442275-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 05:57
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,09 Batch: WG442275-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-08,10-13 Batch: WG442468-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-08,10-13 Batch: WG442468-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/10/10 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-08,10-13 Batch: WG442468-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 06:26
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 14-16 Batch: WG442489-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 06:26
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 14-16 Batch: WG442489-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017822

**Project Number:** 0114119 **Report Date:** 11/11/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 06:26
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 14-16 Batch: WG442489-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,09 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| Methylene chloride | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 99 | | 98 | | 70-130 | 1 | | 20 |
| Chloroform | 101 | | 101 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 88 | | 95 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 97 | | 98 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 99 | | 70-130 | 1 | | 20 |
| Tetrachloroethene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 119 | | 111 | | 70-130 | 7 | | 20 |
| 1,2-Dichloroethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 79 | | 82 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 84 | | 84 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Bromoform | 83 | | 92 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Benzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Toluene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 98 | | 97 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,09 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| Chloromethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Bromomethane | 97 | | 95 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 102 | | 101 | | 70-130 | 1 | | 20 |
| Chloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 101 | | 101 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 97 | | 70-130 | 3 | | 20 |
| Trichloroethene | 99 | | 99 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 82 | | 84 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 96 | | 97 | | 70-130 | 1 | | 20 |
| o-Xylene | 95 | | 94 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 101 | | 102 | | 70-130 | 1 | | 20 |
| Dibromomethane | 109 | | 110 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 97 | | 100 | | 70-130 | 3 | | 20 |
| Styrene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 82 | | 83 | | 70-130 | 1 | | 20 |
| Acetone | 89 | | 90 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 94 | | 96 | | 70-130 | 2 | | 20 |
| 2-Butanone | 84 | | 92 | | 70-130 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,09 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 85 | | 79 | | 70-130 | 7 | | 20 |
| 2-Hexanone | 81 | | 79 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 101 | | 96 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 85 | | 81 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 93 | | 96 | | 70-130 | 3 | | 20 |
| 1,2-Dibromoethane | 95 | | 97 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 83 | | 86 | | 70-130 | 4 | | 20 |
| Bromobenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 80 | | 78 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 95 | | 94 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 92 | | 94 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Hexachlorobutadiene | 85 | | 90 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Naphthalene | 86 | | 83 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 82 | | 81 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,09 Batch: WG442275-1 WG442275-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 82 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Ethyl ether | 89 | | 97 | | 70-130 | 9 | | 20 |
| Isopropyl Ether | 88 | | 89 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 80 | | 83 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 86 | | 90 | | 70-130 | 5 | | 20 |
| 1,4-Dioxane | 93 | | 90 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 94 | | 70-130 |
| Toluene-d8 | 99 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 100 | | 70-130 |
| Dibromofluoromethane | 102 | | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-08,10-13 Batch: WG442468-1 WG442468-2 | | | | | | | | |
| Methylene chloride | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| Chloroform | 102 | | 98 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 83 | | 89 | | 70-130 | 7 | | 20 |
| 1,2-Dichloropropane | 98 | | 95 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 82 | | 87 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 104 | | 98 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 101 | | 97 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 88 | | 90 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 90 | | 95 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 79 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 82 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Bromoform | 87 | | 91 | | 70-130 | 4 | | 20 |
| 1,1,2,2-Tetrachloroethane | 103 | | 102 | | 70-130 | 1 | | 20 |
| Benzene | 101 | | 99 | | 70-130 | 2 | | 20 |
| Toluene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 98 | | 96 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-08,10-13 Batch: WG442468-1 WG442468-2 | | | | | | | | |
| Chloromethane | 88 | | 88 | | 70-130 | 0 | | 20 |
| Bromomethane | 86 | | 88 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 98 | | 97 | | 70-130 | 1 | | 20 |
| Chloroethane | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 98 | | 98 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 92 | | 70-130 | 2 | | 20 |
| Trichloroethene | 100 | | 96 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 94 | | 91 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 90 | | 87 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 96 | | 95 | | 70-130 | 1 | | 20 |
| o-Xylene | 97 | | 95 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 101 | | 70-130 | 1 | | 20 |
| Dibromomethane | 108 | | 108 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 99 | | 70-130 | 0 | | 20 |
| Styrene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | **67** | Q | **68** | Q | 70-130 | 1 | | 20 |
| Acetone | 98 | | 97 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 90 | | 90 | | 70-130 | 0 | | 20 |
| 2-Butanone | 100 | | 100 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-08,10-13 Batch: WG442468-1 WG442468-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 93 | | 91 | | 70-130 | 2 | | 20 |
| 2-Hexanone | 90 | | 91 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 98 | | 99 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 96 | | 87 | | 70-130 | 10 | | 20 |
| 2,2-Dichloropropane | 87 | | 88 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 98 | | 97 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 81 | | 84 | | 70-130 | 4 | | 20 |
| Bromobenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| n-Butylbenzene | 79 | | 78 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 94 | | 93 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 93 | | 90 | | 70-130 | 3 | | 20 |
| p-Chlorotoluene | 91 | | 90 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 86 | | 89 | | 70-130 | 3 | | 20 |
| Hexachlorobutadiene | 84 | | 83 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Naphthalene | 88 | | 87 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 84 | | 82 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-08,10-13 Batch: WG442468-1 WG442468-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 83 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 88 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Ethyl ether | 93 | | 94 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 92 | | 90 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 86 | | 86 | | 70-130 | 0 | | 20 |
| Tertiary-Amyl Methyl Ether | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | **132** | Q | 128 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 100 | | 70-130 |
| Toluene-d8 | 99 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 97 | | 70-130 |
| Dibromofluoromethane | 101 | | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14-16 Batch: WG442489-1 WG442489-2 | | | | | | | | |
| Methylene chloride | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethane | 91 | | 95 | | 70-130 | 4 | | 20 |
| Chloroform | 95 | | 99 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 84 | | 92 | | 70-130 | 9 | | 20 |
| 1,2-Dichloropropane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 77 | | 82 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 88 | | 94 | | 70-130 | 7 | | 20 |
| Tetrachloroethene | 89 | | 93 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 110 | | 94 | | 70-130 | 16 | | 20 |
| 1,2-Dichloroethane | 90 | | 93 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 84 | | 89 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 86 | | 91 | | 70-130 | 6 | | 20 |
| trans-1,3-Dichloropropene | **67** | Q | 71 | | 70-130 | 6 | | 20 |
| cis-1,3-Dichloropropene | 77 | | 80 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 91 | | 95 | | 70-130 | 4 | | 20 |
| Bromoform | 78 | | 89 | | 70-130 | 13 | | 20 |
| 1,1,2,2-Tetrachloroethane | 87 | | 94 | | 70-130 | 8 | | 20 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Toluene | 89 | | 92 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 90 | | 93 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14-16 Batch: WG442489-1 WG442489-2 | | | | | | | | |
| Chloromethane | 89 | | 90 | | 70-130 | 1 | | 20 |
| Bromomethane | 84 | | 88 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 96 | | 98 | | 70-130 | 2 | | 20 |
| Chloroethane | 95 | | 97 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethene | 96 | | 98 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 90 | | 94 | | 70-130 | 4 | | 20 |
| Trichloroethene | 95 | | 94 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 84 | | 91 | | 70-130 | 8 | | 20 |
| 1,3-Dichlorobenzene | 84 | | 90 | | 70-130 | 7 | | 20 |
| 1,4-Dichlorobenzene | 87 | | 92 | | 70-130 | 6 | | 20 |
| Methyl tert butyl ether | 90 | | 95 | | 70-130 | 5 | | 20 |
| p/m-Xylene | 90 | | 92 | | 70-130 | 2 | | 20 |
| o-Xylene | 96 | | 98 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Dibromomethane | 102 | | 105 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 86 | | 93 | | 70-130 | 8 | | 20 |
| Styrene | 92 | | 95 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 71 | | 75 | | 70-130 | 5 | | 20 |
| Acetone | 97 | | 93 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 84 | | 89 | | 70-130 | 6 | | 20 |
| 2-Butanone | 94 | | 100 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14-16 Batch: WG442489-1 WG442489-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 82 | | 88 | | 70-130 | 7 | | 20 |
| 2-Hexanone | 81 | | 85 | | 70-130 | 5 | | 20 |
| Bromochloromethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| Tetrahydrofuran | 93 | | 99 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 85 | | 90 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 86 | | 89 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 89 | | 93 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 76 | | 82 | | 70-130 | 8 | | 20 |
| Bromobenzene | 85 | | 90 | | 70-130 | 6 | | 20 |
| n-Butylbenzene | 76 | | 77 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 90 | | 93 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 88 | | 92 | | 70-130 | 4 | | 20 |
| o-Chlorotoluene | 85 | | 92 | | 70-130 | 8 | | 20 |
| p-Chlorotoluene | 85 | | 89 | | 70-130 | 5 | | 20 |
| 1,2-Dibromo-3-chloropropane | 77 | | 82 | | 70-130 | 6 | | 20 |
| Hexachlorobutadiene | 83 | | 86 | | 70-130 | 4 | | 20 |
| Isopropylbenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 92 | | 96 | | 70-130 | 4 | | 20 |
| Naphthalene | 75 | | 82 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 90 | | 95 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichlorobenzene | 74 | | 79 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14-16 Batch: WG442489-1 WG442489-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 77 | | 81 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 85 | | 88 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 88 | | 91 | | 70-130 | 3 | | 20 |
| Ethyl ether | 98 | | 102 | | 70-130 | 4 | | 20 |
| Isopropyl Ether | 94 | | 98 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 88 | | 90 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 117 | | 119 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 96 | | 70-130 |
| Toluene-d8 | 98 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 99 | | 70-130 |
| Dibromofluoromethane | 104 | | 103 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1017822-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017822
**Report Date:** 11/11/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1017822-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-15A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-15B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-16A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1017822-16B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1017822 |
| **Project Number:** | 0114119 | **Report Date:** | 11/11/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1017822 |
| **Project Number:** | 0114119 | **Report Date:** | 11/11/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1017822
**Project Number:** 0114119 **Report Date:** 11/11/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 9

Date Rec'd in Lab: 11/9/10

ALPHA Job #: L1017822

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial_No:11111013:42

## Client Information

Client: ERM
Address: 399 Boylston St. Boston, MA, 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: J. Flattery
ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 11/11/10 48hr Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 17822-1 | EB-03-20101109-01 | 11/9/10 | 0815 | GW | LSM | 2 | | |
| 2 | APS-102-49.3-20101108-01 | 11/8/10 LSM | 1701 | | | 2 | | |
| 3 | APS-101-61.6-20101108-01 | 11/8/10 LSM | 1617 | | | 2 | | |
| 4 | APS-102-66.4-20101109-01 | 11/9/10 LSM | 0825 | | | 2 | | |
| 5 | APS-101-65.4-20101109-01 | 11/9/10 | 0745 | | | 2 | | |
| 6 | APS-102-75.6-20101109-01 | 11/9/10 | 1148 | | | 2 | | |
| 7 | APS-102-71.7-20101109-01 | 11/09/10 | 1000 | | | 2 | | |
| 8 | APS-103-39.1-20101109-01 | 11/09/10 | 1122 | | | 2 | | |
| 9 | EB-04-20101109-01 | 11/9/10 | 1235 | | | 2 | | |
| 10 | APS-103-23.8-20101109-01 | 11/9/10 | 10:30 | | | 2 | | |

Container Type: vials
Preservative: HCl

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/9/10 1615 | [signature] | 11/9/10 1615 |
| [signature] | 11/9/10 1715 | [signature] | 11/9/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 11/9/10

ALPHA Job #: L1017822

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial No:1111013142

**Client Information**

Client: ERM
Address: 399 Boylston St. Boston, MA 02216
Phone: 617-646-7800
Fax: 617-267-6447
Email: Jason.Flattery@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon
Project Location: Wayland, MA
Project #: 0114119
Project Manager: J. Flattery
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr.
Date Due: 11/11/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 17822.11 | APS-104-20.0-20101109-01 | 11/09/2010 | 1406 | GW | LSM | 2 | | |
| 12 | APS-103-69.0-20101109-01 | | 1407 | | | 2 | | |
| | ~~ES-005-20101109-01~~ LSM | | | LSM | | 2 | | |
| 13 | APS-104-25.0-20101109-01 LSM | | 1450 | | | 2 | | |
| 14 | APS-105-20.0-20101109-01 | | 1533 | | | 2 | | |
| 15 | APS-104-30.0-20101109-01 | | 1549 | | | 2 | | |
| 16 | APS-105-25.0-20101109-01 | | 1611 | | | 2 | | |

Container Type
Preservative

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 11/09/10 1615 | [illegible] | 11/9/10 1615 |
| [illegible] | 11/9/10 1715 | [illegible] | 11/9/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017822

Instrument ID: Quimby.i  Calibration Date: 10-NOV-2010  Time: 14:13

Lab File ID: 1110N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .28065 | .1 | 33 | 20 | F |
| chloromethane | .62163 | .54933 | .1 | 12 | 20 | |
| vinyl chloride | .4285 | .42003 | .1 | 2 | 20 | |
| bromomethane | .32572 | .28069 | .1 | 14 | 20 | |
| chloroethane | .35035 | .34818 | .1 | 1 | 20 | |
| trichlorofluoromethane | .6241 | .6284 | .1 | -1 | 20 | |
| ethyl ether | .13811 | .12896 | .05 | 7 | 20 | |
| acetone | 100 | 98.458 | .1 | 2 | 20 | |
| 1,1,-dichloroethene | .31495 | .30866 | .1 | 2 | 20 | |
| methylene chloride | .34246 | .3432 | .1 | 0 | 20 | |
| carbon disulfide | .90993 | .82249 | .1 | 10 | 20 | |
| methyl tert butyl ether | .48005 | .43129 | .1 | 10 | 20 | |
| trans-1,2-dichloroethene | .36264 | .33983 | .1 | 6 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0695 | .05 | 8 | 20 | |
| 1,1-dichloroethane | .70419 | .68915 | .2 | 2 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .62713 | .05 | 14 | 20 | |
| 2-butanone | .06714 | .06698 | .1 | 0 | 20 | F |
| 2,2-dichloropropane | .34238 | .29744 | .05 | 13 | 20 | |
| cis-1,2-dichloroethene | .37932 | .38788 | .1 | -2 | 20 | |
| chloroform | .61594 | .62605 | .2 | -2 | 20 | |
| bromochloromethane | .12887 | .12601 | .05 | 2 | 20 | |
| tetrahydrofuran | .04454 | .04291 | .05 | 4 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .43282 | .1 | 12 | 20 | |
| 1,1-dichloropropene | .52258 | .49391 | .05 | 5 | 20 | |
| carbontetrachloride | .35402 | .29287 | .1 | 17 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .41865 | .05 | 10 | 20 | |
| 1,2-dichloroethane | .39579 | .38615 | .1 | 2 | 20 | |
| benzene | 1.5397 | 1.5597 | .5 | -1 | 20 | |
| trichloroethene | .37211 | .37052 | .2 | 0 | 20 | |
| 1,2-dichloropropane | .35603 | .34886 | .1 | 2 | 20 | |
| bromodichloromethane | .35384 | .31915 | .2 | 10 | 20 | |
| 1,4-dioxane | .00109 | .00144 | .05 | -32 | 20 | F |
| dibromomethane | .12703 | .13731 | .05 | -8 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04513 | .1 | 7 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .34201 | .2 | 18 | 20 | |
| toluene | 1.2794 | 1.2187 | .4 | 5 | 20 | |
| trans-1,3-dichloropropene | .38217 | .29254 | .1 | 23 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .22634 | .1 | -4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017822

Instrument ID: Quimby.i  Calibration Date: 10-NOV-2010  Time: 14:13

Lab File ID: 1110N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .11332 | .1 | 10 | 20 | |
| 1,3-dichloropropane | .48008 | .47002 | .05 | 2 | 20 | |
| tetrachloroethene | .50656 | .48462 | .2 | 4 | 20 | |
| chlorodibromomethane | .22898 | .18733 | .1 | 18 | 20 | |
| 1,2-dibromoethane | .21845 | .21398 | .1 | 2 | 20 | |
| chlorobenzene | 1.3784 | 1.2715 | .5 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .27439 | .05 | 19 | 20 | |
| ethyl benzene | 2.6402 | 2.5892 | .1 | 2 | 20 | |
| p/m xylene | 1.0415 | 1.0032 | .1 | 4 | 20 | |
| o xylene | .99264 | .959 | .3 | 3 | 20 | |
| styrene | 1.5901 | 1.5129 | .31 | 5 | 20 | |
| isopropylbenzene | 2.7063 | 2.6020 | .1 | 4 | 20 | |
| bromoform | .16937 | .14693 | .1 | 13 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .47023 | .3 | -3 | 20 | |
| 1,2,3-trichloropropane | .359 | .35632 | .05 | 1 | 20 | |
| n-propylbenzene | 5.3817 | 5.2061 | .05 | 3 | 20 | |
| bromobenzene | .8701 | .7984 | .05 | 8 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.3879 | .05 | 9 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3701 | .05 | 7 | 20 | |
| 4-chorotoluene | 3.3404 | 3.051 | .05 | 9 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8393 | .05 | 8 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4736 | .05 | 7 | 20 | |
| sec-butylbenzene | 4.6047 | 4.3097 | .05 | 6 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.4918 | .05 | 2 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.7535 | .6 | 6 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7130 | .5 | 4 | 20 | |
| n-butylbenzene | 4.0323 | 3.1785 | .05 | 21 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4838 | .4 | 6 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 85.731 | .05 | 14 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .67347 | .2 | 16 | 20 | |
| hexachlorobutadiene | .39925 | .33466 | .05 | 16 | 20 | |
| naphthalene | 1.1650 | 1.0206 | .05 | 12 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .50142 | .05 | 16 | 20 | |
| dibromofluoromethane | .2204 | .22247 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .22011 | .05 | 3 | 20 | |
| toluene-d8 | 1.2994 | 1.2848 | .05 | 1 | 20 | |
| 4-bromofluorobenzene | .89239 | .86331 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017822

Instrument ID: Quimby.i  Calibration Date: 10-NOV-2010  Time: 04:54

Lab File ID: 1110A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .34345 | .1 | 18 | 20 | |
| chloromethane | .62163 | .58384 | .1 | 6 | 20 | |
| vinyl chloride | .4285 | .43551 | .1 | -2 | 20 | |
| bromomethane | .32572 | .3156 | .1 | 3 | 20 | |
| chloroethane | .35035 | .35238 | .1 | -1 | 20 | |
| trichlorofluoromethane | .6241 | .74018 | .1 | -19 | 20 | |
| ethyl ether | .13811 | .12317 | .05 | 11 | 20 | |
| acetone | 100 | 89.239 | .1 | 11 | 20 | |
| 1,1,-dichloroethene | .31495 | .31742 | .1 | -1 | 20 | |
| methylene chloride | .34246 | .33889 | .1 | 1 | 20 | |
| carbon disulfide | .90993 | .85074 | .1 | 7 | 20 | |
| methyl tert butyl ether | .48005 | .39134 | .1 | 18 | 20 | |
| trans-1,2-dichloroethene | .36264 | .34247 | .1 | 6 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0243 | .05 | 12 | 20 | |
| 1,1-dichloroethane | .70419 | .69586 | .2 | 1 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .5866 | .05 | 19 | 20 | |
| 2-butanone | .06714 | .05652 | .1 | 16 | 20 | F |
| 2,2-dichloropropane | .34238 | .31712 | .05 | 7 | 20 | |
| cis-1,2-dichloroethene | .37932 | .38228 | .1 | -1 | 20 | |
| chloroform | .61594 | .62473 | .2 | -1 | 20 | |
| bromochloromethane | .12887 | .12988 | .05 | -1 | 20 | |
| tetrahydrofuran | .04454 | .03791 | .05 | 15 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .44247 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .52258 | .5026 | .05 | 4 | 20 | |
| carbontetrachloride | .35402 | .31043 | .1 | 12 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .40321 | .05 | 14 | 20 | |
| 1,2-dichloroethane | .39579 | .3725 | .1 | 6 | 20 | |
| benzene | 1.5397 | 1.5366 | .5 | 0 | 20 | |
| trichloroethene | .37211 | .36811 | .2 | 1 | 20 | |
| 1,2-dichloropropane | .35603 | .34613 | .1 | 3 | 20 | |
| bromodichloromethane | .35384 | .32171 | .2 | 9 | 20 | |
| 1,4-dioxane | .00109 | .00102 | .05 | 7 | 20 | F |
| dibromomethane | .12703 | .13797 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04121 | .1 | 15 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .34773 | .2 | 16 | 20 | |
| toluene | 1.2794 | 1.2089 | .4 | 6 | 20 | |
| trans-1,3-dichloropropene | .38217 | .30234 | .1 | 21 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .21315 | .1 | 2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017822

Instrument ID: Quimby.i  Calibration Date: 10-NOV-2010  Time: 04:54

Lab File ID: 1110A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10176 | .1 | 19 | 20 | |
| 1,3-dichloropropane | .48008 | .473 | .05 | 1 | 20 | |
| tetrachloroethene | .50656 | .48444 | .2 | 4 | 20 | |
| chlorodibromomethane | .22898 | .19552 | .1 | 15 | 20 | |
| 1,2-dibromoethane | .21845 | .20765 | .1 | 5 | 20 | |
| chlorobenzene | 1.3784 | 1.2685 | .5 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .28193 | .05 | 17 | 20 | |
| ethyl benzene | 2.6402 | 2.5952 | .1 | 2 | 20 | |
| p/m xylene | 1.0415 | 1.0043 | .1 | 4 | 20 | |
| o xylene | .99264 | .93999 | .3 | 5 | 20 | |
| styrene | 1.5901 | 1.4641 | .31 | 8 | 20 | |
| isopropylbenzene | 2.7063 | 2.6194 | .1 | 3 | 20 | |
| bromoform | .16937 | .13989 | .1 | 17 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .44699 | .3 | 2 | 20 | |
| 1,2,3-trichloropropane | .359 | .34971 | .05 | 3 | 20 | |
| n-propylbenzene | 5.3817 | 5.2415 | .05 | 3 | 20 | |
| bromobenzene | .8701 | .79931 | .05 | 8 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.4049 | .05 | 9 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3800 | .05 | 6 | 20 | |
| 4-chorotoluene | 3.3404 | 3.0824 | .05 | 8 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8495 | .05 | 7 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4911 | .05 | 7 | 20 | |
| sec-butylbenzene | 4.6047 | 4.3857 | .05 | 5 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.5491 | .05 | 1 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.7031 | .6 | 9 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7179 | .5 | 4 | 20 | |
| n-butylbenzene | 4.0323 | 3.218 | .05 | 20 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4699 | .4 | 7 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 95.974 | .05 | 4 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .66986 | .2 | 16 | 20 | |
| hexachlorobutadiene | .39925 | .33966 | .05 | 15 | 20 | |
| naphthalene | 1.1650 | .99828 | .05 | 14 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .48809 | .05 | 18 | 20 | |
| dibromofluoromethane | .2204 | .22434 | .05 | -2 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21545 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.2873 | .05 | 1 | 20 | |
| 4-bromofluorobenzene | .89239 | .85698 | .05 | 4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017822

Instrument ID: Quimby.i  Calibration Date: 11-NOV-2010  Time: 05:23

Lab File ID: 1111A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No:  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .30001 | .1 | 29 | 20 | F |
| chloromethane | .62163 | .55501 | .1 | 11 | 20 | |
| vinyl chloride | .4285 | .41185 | .1 | 4 | 20 | |
| bromomethane | .32572 | .27236 | .1 | 16 | 20 | |
| chloroethane | .35035 | .33276 | .1 | 5 | 20 | |
| trichlorofluoromethane | .6241 | .68456 | .1 | -10 | 20 | |
| ethyl ether | .13811 | .13546 | .05 | 2 | 20 | |
| acetone | 100 | 96.738 | .1 | 3 | 20 | |
| 1,1,-dichloroethene | .31495 | .30241 | .1 | 4 | 20 | |
| methylene chloride | .34246 | .32735 | .1 | 4 | 20 | |
| carbon disulfide | .90993 | .76399 | .1 | 16 | 20 | |
| methyl tert butyl ether | .48005 | .43234 | .1 | 10 | 20 | |
| trans-1,2-dichloroethene | .36264 | .32783 | .1 | 10 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0979 | .05 | 6 | 20 | |
| 1,1-dichloroethane | .70419 | .64282 | .2 | 9 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .64416 | .05 | 12 | 20 | |
| 2-butanone | .06714 | .06275 | .1 | 7 | 20 | F |
| 2,2-dichloropropane | .34238 | .29053 | .05 | 15 | 20 | |
| cis-1,2-dichloroethene | .37932 | .37626 | .1 | 1 | 20 | |
| chloroform | .61594 | .58707 | .2 | 5 | 20 | |
| bromochloromethane | .12887 | .12327 | .05 | 4 | 20 | |
| tetrahydrofuran | .04454 | .04149 | .05 | 7 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .41426 | .1 | 16 | 20 | |
| 1,1-dichloropropene | .52258 | .47414 | .05 | 9 | 20 | |
| carbontetrachloride | .35402 | .29831 | .1 | 16 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .43777 | .05 | 6 | 20 | |
| 1,2-dichloroethane | .39579 | .35718 | .1 | 10 | 20 | |
| benzene | 1.5397 | 1.4861 | .5 | 3 | 20 | |
| trichloroethene | .37211 | .35395 | .2 | 5 | 20 | |
| 1,2-dichloropropane | .35603 | .32773 | .1 | 8 | 20 | |
| bromodichloromethane | .35384 | .30563 | .2 | 14 | 20 | |
| 1,4-dioxane | .00109 | .00128 | .05 | -17 | 20 | F |
| dibromomethane | .12703 | .12947 | .05 | -2 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03982 | .1 | 18 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .31856 | .2 | 23 | 20 | F |
| toluene | 1.2794 | 1.1381 | .4 | 11 | 20 | |
| trans-1,3-dichloropropene | .38217 | .25736 | .1 | 33 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .1915 | .1 | 12 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017822

Instrument ID: Quimby.i  Calibration Date: 11-NOV-2010  Time: 05:23

Lab File ID: 1111A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No:  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10251 | .1 | 19 | 20 | |
| 1,3-dichloropropane | .48008 | .42829 | .05 | 11 | 20 | |
| tetrachloroethene | .50656 | .45045 | .2 | 11 | 20 | |
| chlorodibromomethane | .22898 | .1769 | .1 | 23 | 20 | F |
| 1,2-dibromoethane | .21845 | .18854 | .1 | 14 | 20 | |
| chlorobenzene | 1.3784 | 1.1689 | .5 | 15 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .25924 | .05 | 24 | 20 | F |
| ethyl benzene | 2.6402 | 2.3896 | .1 | 9 | 20 | |
| p/m xylene | 1.0415 | .93408 | .1 | 10 | 20 | |
| o xylene | .99264 | .95063 | .3 | 4 | 20 | |
| styrene | 1.5901 | 1.4625 | .31 | 8 | 20 | |
| isopropylbenzene | 2.7063 | 2.4557 | .1 | 9 | 20 | |
| bromoform | .16937 | .13221 | .1 | 22 | 20 | F |
| 1,1,2,2,-tetrachloroethane | .4575 | .39733 | .3 | 13 | 20 | |
| 1,2,3-trichloropropane | .359 | .31053 | .05 | 14 | 20 | |
| n-propylbenzene | 5.3817 | 4.8609 | .05 | 10 | 20 | |
| bromobenzene | .8701 | .73676 | .05 | 15 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.1572 | .05 | 15 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.0837 | .05 | 15 | 20 | |
| 4-chorotoluene | 3.3404 | 2.8413 | .05 | 15 | 20 | |
| tert-butylbenzene | 3.0713 | 2.7162 | .05 | 12 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.2817 | .05 | 13 | 20 | |
| sec-butylbenzene | 4.6047 | 4.1456 | .05 | 10 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.2813 | .05 | 8 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.5795 | .6 | 16 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.5585 | .5 | 13 | 20 | |
| n-butylbenzene | 4.0323 | 3.0704 | .05 | 24 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.3245 | .4 | 16 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 77.183 | .05 | 23 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .61546 | .2 | 23 | 20 | F |
| hexachlorobutadiene | .39925 | .33178 | .05 | 17 | 20 | |
| naphthalene | 1.1650 | .87731 | .05 | 25 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .44056 | .05 | 26 | 20 | F |
| dibromofluoromethane | .2204 | .22826 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21489 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.2769 | .05 | 2 | 20 | |
| 4-bromofluorobenzene | .89239 | .84921 | .05 | 5 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1017949 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/12/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1017949-01 | APS-105-30.0-20101109-01 | WAYLAND, MA | 11/09/10 16:50 |
| L1017949-02 | APS-104-35.0-20101109-01 | WAYLAND, MA | 11/09/10 16:48 |
| L1017949-03 | APS-105-35.0-20101110-01 | WAYLAND, MA | 11/10/10 08:06 |
| L1017949-04 | APS-104-40.0-20101110-01 | WAYLAND, MA | 11/10/10 08:19 |
| L1017949-05 | APS-105-40.0-20101110-01 | WAYLAND, MA | 11/10/10 08:44 |
| L1017949-06 | APS-104-43.0-20101110-01 | WAYLAND, MA | 11/10/10 09:46 |
| L1017949-07 | APS-105-53.2-20101110-01 | WAYLAND, MA | 11/10/10 10:08 |
| L1017949-08 | APS-105-46.8-20101110-01 | WAYLAND, MA | 11/10/10 09:31 |
| L1017949-09 | APS-105-58.5-20101110-01 | WAYLAND, MA | 11/10/10 10:49 |
| L1017949-10 | APS-104-48.0-20101110-01 | WAYLAND, MA | 11/10/10 10:47 |
| L1017949-11 | APS-104-82.1-20101110-01 | WAYLAND, MA | 11/10/10 16:01 |
| L1017949-12 | APS-104-63.5-20101110-01 | WAYLAND, MA | 11/10/10 11:54 |
| L1017949-13 | APS-105-82.8-20101110-01 | WAYLAND, MA | 11/10/10 13:05 |
| L1017949-14 | EB-07-20101110-01 | WAYLAND, MA | 11/10/10 14:20 |
| L1017949-15 | APS-105-86.4-20101110-01 | WAYLAND, MA | 11/10/10 13:53 |
| L1017949-16 | APS-105-77.0-20101110-01 | WAYLAND, MA | 11/10/10 12:08 |
| L1017949-17 | APS-104-68.1-20101110-01 | WAYLAND, MA | 11/10/10 13:02 |
| L1017949-18 | APS-104-72.3-20101110-01 | WAYLAND, MA | 11/10/10 14:10 |
| L1017949-19 | APS-104-77.2-20101110-01 | WAYLAND, MA | 11/10/10 15:08 |
| L1017949-20 | APS-107-20.0-20101110-01 | WAYLAND, MA | 11/10/10 15:10 |
| L1017949-21 | APS-107-25.0-20101110-01 | WAYLAND, MA | 11/10/10 15:49 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1017949
**Project Number:** 0114119 **Report Date:** 11/12/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Sample Receipt

At the client's request, the analysis of Volatiles Organics was placed on hold for sample "APS-107-20.0-20101110-01".

Volatile Organics

L1017949-04 and -07 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG442491-2 LCSD recovery, associated with L1017949-01, is below the acceptance criteria for Carbon

**Project Name:** RAYTHEON **Lab Number:** L1017949
**Project Number:** 0114119 **Report Date:** 11/12/10

**Case Narrative (continued)**

disulfide (67%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

The WG442535-1 LCS recovery, associated with L1017949-04, is above the acceptance criteria for 1,4-Dioxane (136%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated sample are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The initial calibration, associated with L1017949-05 through -12, -14, -15, -16 and -18, did not meet the method required minimum response factor for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The WG442679-1/-2 LCS/LCSD RPD, associated with L1017949-05 through -12, -14, -15, -16 and -18, is above the acceptance criteria for Trichlorofluoromethane (21%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1017949-04, did not meet the method required minimum response factor for 1,4-Dioxane and utilized a quadratic fit for Acetone.

The initial calibration, associated with L1017949-01, did not meet the method required minimum response factor for 1,4-Dioxane and utilized a quadratic fit for Bromoform.

The continuing calibration standards, associated with L1017949-01 through -18, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/12/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-01 | Date Collected: | 11/09/10 16:50 |
| Client ID: | APS-105-30.0-20101109-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 13:22 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-01 Date Collected: 11/09/10 16:50

Client ID: APS-105-30.0-20101109-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-01 | Date Collected: | 11/09/10 16:50 |
| Client ID: | APS-105-30.0-20101109-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-04 D | Date Collected: | 11/10/10 08:19 |
| Client ID: | APS-104-40.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 13:38 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroform | ND | | ug/l | 2.5 | -- | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Tetrachloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,1-Trichloroethane | 20 | | ug/l | 2.5 | -- | 2.5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Benzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Toluene | ND | | ug/l | 2.5 | -- | 2.5 |
| Ethylbenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Vinyl chloride | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichloroethene | 88 | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-04 D Date Collected: 11/10/10 08:19

Client ID: APS-104-40.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Methyl tert butyl ether | 6.5 | | ug/l | 5.0 | -- | 2.5 |
| p/m-Xylene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Xylene | ND | | ug/l | 2.5 | -- | 2.5 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Styrene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Acetone | ND | | ug/l | 12 | -- | 2.5 |
| Carbon disulfide | ND | | ug/l | 5.0 | -- | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | -- | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | -- | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | -- | 2.5 |
| Bromochloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Tetrahydrofuran | ND | | ug/l | 25 | -- | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Bromobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 1.5 | -- | 2.5 |
| Isopropylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| Naphthalene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Propylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl ether | ND | | ug/l | 5.0 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-04 D Date Collected: 11/10/10 08:19

Client ID: APS-104-40.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,4-Dioxane | ND | | ug/l | 620 | -- | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 107 | | 70-130 |
| 4-Bromofluorobenzene | 117 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-05 | Date Collected: | 11/10/10 08:44 |
| Client ID: | APS-105-40.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 17:33 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-05 Date Collected: 11/10/10 08:44

Client ID: APS-105-40.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-05 | Date Collected: | 11/10/10 08:44 |
| Client ID: | APS-105-40.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-06 | Date Collected: | 11/10/10 09:46 |
| Client ID: | APS-104-43.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 18:04 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.8 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 28 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-06 Date Collected: 11/10/10 09:46

Client ID: APS-104-43.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 9.4 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-06 | Date Collected: | 11/10/10 09:46 |
| Client ID: | APS-104-43.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-07 D | Date Collected: | 11/10/10 10:08 |
| Client ID: | APS-105-53.2-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 18:36 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 4.0 | -- | 2 |
| 1,1-Dichloroethane | 2.0 | | ug/l | 2.0 | -- | 2 |
| Chloroform | ND | | ug/l | 2.0 | -- | 2 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | -- | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 2 |
| Dibromochloromethane | ND | | ug/l | 2.0 | -- | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Tetrachloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Chlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| Trichlorofluoromethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| 1,1,1-Trichloroethane | 6.8 | | ug/l | 2.0 | -- | 2 |
| Bromodichloromethane | ND | | ug/l | 2.0 | -- | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 4.0 | -- | 2 |
| Bromoform | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Benzene | ND | | ug/l | 2.0 | -- | 2 |
| Toluene | ND | | ug/l | 2.0 | -- | 2 |
| Ethylbenzene | ND | | ug/l | 2.0 | -- | 2 |
| Chloromethane | ND | | ug/l | 4.0 | -- | 2 |
| Bromomethane | ND | | ug/l | 4.0 | -- | 2 |
| Vinyl chloride | ND | | ug/l | 2.0 | -- | 2 |
| Chloroethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,1-Dichloroethene | 6.2 | | ug/l | 2.0 | -- | 2 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Trichloroethene | 110 | | ug/l | 2.0 | -- | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-07 D Date Collected: 11/10/10 10:08

Client ID: APS-105-53.2-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| Methyl tert butyl ether | 14 | | ug/l | 4.0 | -- | 2 |
| p/m-Xylene | ND | | ug/l | 4.0 | -- | 2 |
| o-Xylene | ND | | ug/l | 2.0 | -- | 2 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Dibromomethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| Styrene | ND | | ug/l | 2.0 | -- | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 4.0 | -- | 2 |
| Acetone | ND | | ug/l | 10 | -- | 2 |
| Carbon disulfide | ND | | ug/l | 4.0 | -- | 2 |
| 2-Butanone | ND | | ug/l | 10 | -- | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | -- | 2 |
| 2-Hexanone | ND | | ug/l | 10 | -- | 2 |
| Bromochloromethane | ND | | ug/l | 4.0 | -- | 2 |
| Tetrahydrofuran | ND | | ug/l | 20 | -- | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Bromobenzene | ND | | ug/l | 4.0 | -- | 2 |
| n-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| sec-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| tert-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| o-Chlorotoluene | ND | | ug/l | 4.0 | -- | 2 |
| p-Chlorotoluene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 4.0 | -- | 2 |
| Hexachlorobutadiene | ND | | ug/l | 1.2 | -- | 2 |
| Isopropylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| p-Isopropyltoluene | ND | | ug/l | 4.0 | -- | 2 |
| Naphthalene | ND | | ug/l | 4.0 | -- | 2 |
| n-Propylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl ether | ND | | ug/l | 4.0 | -- | 2 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-07 D Date Collected: 11/10/10 10:08

Client ID: APS-105-53.2-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 4.0 | -- | 2 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 4.0 | -- | 2 |
| 1,4-Dioxane | ND | | ug/l | 500 | -- | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-08 | Date Collected: | 11/10/10 09:31 |
| Client ID: | APS-105-46.8-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 19:07 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.0 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 5.6 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 5.3 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 68 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-08 Date Collected: 11/10/10 09:31

Client ID: APS-105-46.8-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 110 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-08 | Date Collected: | 11/10/10 09:31 |
| Client ID: | APS-105-46.8-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 44 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-09 | Date Collected: | 11/10/10 10:49 |
| Client ID: | APS-105-58.5-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 19:39 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 2.2 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 3.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 80 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-09 Date Collected: 11/10/10 10:49

Client ID: APS-105-58.5-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 5.5 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-09 | Date Collected: | 11/10/10 10:49 |
| Client ID: | APS-105-58.5-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-10 | Date Collected: | 11/10/10 10:47 |
| Client ID: | APS-104-48.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 20:10 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 2.0 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 12 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 19 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-10 Date Collected: 11/10/10 10:47

Client ID: APS-104-48.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-10 | Date Collected: | 11/10/10 10:47 |
| Client ID: | APS-104-48.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-11 | Date Collected: | 11/10/10 16:01 |
| Client ID: | APS-104-82.1-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 20:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-11 Date Collected: 11/10/10 16:01

Client ID: APS-104-82.1-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-11 | Date Collected: | 11/10/10 16:01 |
| Client ID: | APS-104-82.1-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-12 | Date Collected: | 11/10/10 11:54 |
| Client ID: | APS-104-63.5-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 21:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 60 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-12 Date Collected: 11/10/10 11:54

Client ID: APS-104-63.5-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 32 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-12 | Date Collected: | 11/10/10 11:54 |
| Client ID: | APS-104-63.5-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-14 | Date Collected: | 11/10/10 14:20 |
| Client ID: | EB-07-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 21:44 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-14 Date Collected: 11/10/10 14:20

Client ID: EB-07-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-14 | Date Collected: | 11/10/10 14:20 |
| Client ID: | EB-07-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-15 | Date Collected: | 11/10/10 13:53 |
| Client ID: | APS-105-86.4-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 22:16 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-15 Date Collected: 11/10/10 13:53

Client ID: APS-105-86.4-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-15 | Date Collected: | 11/10/10 13:53 |
| Client ID: | APS-105-86.4-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-16 | Date Collected: | 11/10/10 12:08 |
| Client ID: | APS-105-77.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 22:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-16 Date Collected: 11/10/10 12:08

Client ID: APS-105-77.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-16 | Date Collected: | 11/10/10 12:08 |
| Client ID: | APS-105-77.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-18 | Date Collected: | 11/10/10 14:10 |
| Client ID: | APS-104-72.3-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/11/10 23:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 4.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 98 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

Lab ID: L1017949-18 Date Collected: 11/10/10 14:10

Client ID: APS-104-72.3-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 10 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1017949-18 | Date Collected: | 11/10/10 14:10 |
| Client ID: | APS-104-72.3-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 05:43
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG442491-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 05:43
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG442491-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 05:43
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG442491-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | | ug/l | 10 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 118 | | 70-130 |
| D bromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 05:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG442535-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 05:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG442535-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 05:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG442535-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 89 | | 70-130 |
| Toluene-d8 | 108 | | 70-130 |
| 4-Bromofluorobenzene | 113 | | 70-130 |
| D bromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 16:30
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-12,14-16,18 Batch: WG442679-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 16:30
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-12,14-16,18 Batch: WG442679-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1017949

**Project Number:** 0114119 **Report Date:** 11/12/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/11/10 16:30
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-12,14-16,18 Batch: WG442679-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG442491-1 WG442491-2 | | | | | | | | |
| Methylene chloride | 101 | | 90 | | 70-130 | 12 | | 20 |
| 1,1-Dichloroethane | 102 | | 92 | | 70-130 | 10 | | 20 |
| Chloroform | 107 | | 96 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 129 | | 114 | | 70-130 | 12 | | 20 |
| 1,2-Dichloropropane | 100 | | 92 | | 70-130 | 8 | | 20 |
| Dibromochloromethane | 112 | | 108 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 111 | | 107 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 103 | | 96 | | 70-130 | 7 | | 20 |
| Chlorobenzene | 102 | | 95 | | 70-130 | 7 | | 20 |
| Trichlorofluoromethane | 86 | | 75 | | 70-130 | 14 | | 20 |
| 1,2-Dichloroethane | 100 | | 93 | | 70-130 | 7 | | 20 |
| 1,1,1-Trichloroethane | 109 | | 96 | | 70-130 | 13 | | 20 |
| Bromodichloromethane | 108 | | 94 | | 70-130 | 14 | | 20 |
| trans-1,3-Dichloropropene | 108 | | 100 | | 70-130 | 8 | | 20 |
| cis-1,3-Dichloropropene | 110 | | 99 | | 70-130 | 11 | | 20 |
| 1,1-Dichloropropene | 99 | | 86 | | 70-130 | 14 | | 20 |
| Bromoform | 119 | | 112 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 97 | | 93 | | 70-130 | 4 | | 20 |
| Benzene | 105 | | 94 | | 70-130 | 11 | | 20 |
| Toluene | 101 | | 93 | | 70-130 | 8 | | 20 |
| Ethylbenzene | 108 | | 97 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG442491-1 WG442491-2 | | | | | | | | |
| Chloromethane | 102 | | 91 | | 70-130 | 11 | | 20 |
| Bromomethane | 83 | | 77 | | 70-130 | 8 | | 20 |
| Vinyl chloride | 82 | | 70 | | 70-130 | 16 | | 20 |
| Chloroethane | 92 | | 78 | | 70-130 | 16 | | 20 |
| 1,1-Dichloroethene | 84 | | 76 | | 70-130 | 10 | | 20 |
| trans-1,2-Dichloroethene | 99 | | 84 | | 70-130 | 16 | | 20 |
| Trichloroethene | 96 | | 83 | | 70-130 | 15 | | 20 |
| 1,2-Dichlorobenzene | 98 | | 87 | | 70-130 | 12 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 86 | | 70-130 | 15 | | 20 |
| 1,4-Dichlorobenzene | 107 | | 94 | | 70-130 | 13 | | 20 |
| Methyl tert butyl ether | 85 | | 89 | | 70-130 | 5 | | 20 |
| p/m-Xylene | 102 | | 91 | | 70-130 | 11 | | 20 |
| o-Xylene | 105 | | 95 | | 70-130 | 10 | | 20 |
| cis-1,2-Dichloroethene | 103 | | 93 | | 70-130 | 10 | | 20 |
| Dibromomethane | 99 | | 96 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Styrene | 102 | | 92 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 85 | | 74 | | 70-130 | 14 | | 20 |
| Acetone | 83 | | 98 | | 70-130 | 17 | | 20 |
| Carbon disulfide | 77 | | **67** | Q | 70-130 | 14 | | 20 |
| 2-Butanone | 78 | | 84 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG442491-1 WG442491-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 85 | | 96 | | 70-130 | 12 | | 20 |
| 2-Hexanone | 85 | | 99 | | 70-130 | 15 | | 20 |
| Bromochloromethane | 105 | | 101 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 88 | | 95 | | 70-130 | 8 | | 20 |
| 2,2-Dichloropropane | 115 | | 105 | | 70-130 | 9 | | 20 |
| 1,2-Dibromoethane | 100 | | 107 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 107 | | 113 | | 70-130 | 5 | | 20 |
| 1,1,1,2-Tetrachloroethane | 118 | | 111 | | 70-130 | 6 | | 20 |
| Bromobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| n-Butylbenzene | 106 | | 88 | | 70-130 | 19 | | 20 |
| sec-Butylbenzene | 105 | | 90 | | 70-130 | 15 | | 20 |
| tert-Butylbenzene | 106 | | 90 | | 70-130 | 16 | | 20 |
| o-Chlorotoluene | 87 | | 74 | | 70-130 | 16 | | 20 |
| p-Chlorotoluene | 107 | | 92 | | 70-130 | 15 | | 20 |
| 1,2-Dibromo-3-chloropropane | 115 | | 114 | | 70-130 | 1 | | 20 |
| Hexachlorobutadiene | 98 | | 84 | | 70-130 | 15 | | 20 |
| Isopropylbenzene | 112 | | 98 | | 70-130 | 13 | | 20 |
| p-Isopropyltoluene | 107 | | 89 | | 70-130 | 18 | | 20 |
| Naphthalene | 82 | | 83 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 108 | | 90 | | 70-130 | 18 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 85 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG442491-1 WG442491-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 79 | | 70-130 | 12 | | 20 |
| 1,3,5-Trimethylbenzene | 103 | | 86 | | 70-130 | 18 | | 20 |
| 1,2,4-Trimethylbenzene | 106 | | 90 | | 70-130 | 16 | | 20 |
| Ethyl ether | 85 | | 81 | | 70-130 | 5 | | 20 |
| Isopropyl Ether | 92 | | 88 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 92 | | 91 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 103 | | 100 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | 112 | | 106 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 92 | | 82 | | 70-130 | 11 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 96 | | 70-130 |
| Toluene-d8 | 104 | | 105 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 100 | | 70-130 |
| Dibromofluoromethane | 96 | | 96 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG442535-1 WG442535-2 | | | | | | | | |
| Methylene chloride | 99 | | 97 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 95 | | 92 | | 70-130 | 3 | | 20 |
| Chloroform | 103 | | 97 | | 70-130 | 6 | | 20 |
| Carbon tetrachloride | 116 | | 114 | | 70-130 | 2 | | 20 |
| 1,2-Dichloropropane | 94 | | 89 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 106 | | 109 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 113 | | 70-130 | 12 | | 20 |
| Tetrachloroethene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 81 | | 78 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 99 | | 99 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 99 | | 101 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 105 | | 108 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 95 | | 89 | | 70-130 | 7 | | 20 |
| Bromoform | 130 | | 130 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 103 | | 97 | | 70-130 | 6 | | 20 |
| Benzene | 98 | | 94 | | 70-130 | 4 | | 20 |
| Toluene | 95 | | 99 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 100 | | 101 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG442535-1 WG442535-2 | | | | | | | | |
| Chloromethane | 89 | | 88 | | 70-130 | 1 | | 20 |
| Bromomethane | 74 | | 72 | | 70-130 | 3 | | 20 |
| Vinyl chloride | 74 | | 70 | | 70-130 | 6 | | 20 |
| Chloroethane | 76 | | 74 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 82 | | 78 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 91 | | 89 | | 70-130 | 2 | | 20 |
| Trichloroethene | 92 | | 89 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 101 | | 97 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 87 | | 86 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 100 | | 99 | | 70-130 | 1 | | 20 |
| o-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Dibromomethane | 101 | | 101 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 105 | | 95 | | 70-130 | 10 | | 20 |
| Styrene | 102 | | 105 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 79 | | 74 | | 70-130 | 7 | | 20 |
| Acetone | 95 | | 87 | | 70-130 | 9 | | 20 |
| Carbon disulfide | 73 | | 71 | | 70-130 | 3 | | 20 |
| 2-Butanone | 89 | | 95 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG442535-1 WG442535-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 90 | | 84 | | 70-130 | 7 | | 20 |
| 2-Hexanone | 87 | | 90 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 98 | | 93 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 91 | | 91 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 104 | | 103 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 102 | | 115 | | 70-130 | 12 | | 20 |
| 1,3-Dichloropropane | 106 | | 109 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 105 | | 109 | | 70-130 | 4 | | 20 |
| Bromobenzene | 107 | | 99 | | 70-130 | 8 | | 20 |
| n-Butylbenzene | 93 | | 89 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 102 | | 97 | | 70-130 | 5 | | 20 |
| tert-Butylbenzene | 100 | | 98 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 83 | | 80 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 107 | | 100 | | 70-130 | 7 | | 20 |
| 1,2-Dibromo-3-chloropropane | 123 | | 116 | | 70-130 | 6 | | 20 |
| Hexachlorobutadiene | 93 | | 83 | | 70-130 | 11 | | 20 |
| Isopropylbenzene | 99 | | 101 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 97 | | 93 | | 70-130 | 4 | | 20 |
| Naphthalene | 77 | | 80 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 106 | | 101 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichlorobenzene | 82 | | 82 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG442535-1 WG442535-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 78 | | 74 | | 70-130 | 5 | | 20 |
| 1,2,4-Trimethylbenzene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Ethyl ether | 88 | | 84 | | 70-130 | 5 | | 20 |
| Isopropyl Ether | 86 | | 87 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 89 | | 90 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 95 | | 93 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | **136** | Q | 120 | | 70-130 | 13 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 95 | | 70-130 |
| Toluene-d8 | 102 | | 104 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 103 | | 70-130 |
| Dibromofluoromethane | 100 | | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-12,14-16,18 Batch: WG442679-1 WG442679-2 | | | | | | | | |
| Methylene chloride | 110 | | 101 | | 70-130 | 9 | | 20 |
| 1,1-Dichloroethane | 102 | | 97 | | 70-130 | 5 | | 20 |
| Chloroform | 112 | | 102 | | 70-130 | 9 | | 20 |
| Carbon tetrachloride | 95 | | 93 | | 70-130 | 2 | | 20 |
| 1,2-Dichloropropane | 107 | | 99 | | 70-130 | 8 | | 20 |
| Dibromochloromethane | 92 | | 89 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 107 | | 100 | | 70-130 | 7 | | 20 |
| Tetrachloroethene | 102 | | 100 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 99 | | 94 | | 70-130 | 5 | | 20 |
| Trichlorofluoromethane | 120 | | 97 | | 70-130 | **21** | Q | 20 |
| 1,2-Dichloroethane | 104 | | 97 | | 70-130 | 7 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 91 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 101 | | 99 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 82 | | 80 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 90 | | 84 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 102 | | 96 | | 70-130 | 6 | | 20 |
| Bromoform | 90 | | 90 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 102 | | 93 | | 70-130 | 9 | | 20 |
| Benzene | 108 | | 102 | | 70-130 | 6 | | 20 |
| Toluene | 104 | | 96 | | 70-130 | 8 | | 20 |
| Ethylbenzene | 105 | | 99 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-12,14-16,18 Batch: WG442679-1 WG442679-2 | | | | | | | | |
| Chloromethane | 95 | | 88 | | 70-130 | 8 | | 20 |
| Bromomethane | 89 | | 86 | | 70-130 | 3 | | 20 |
| Vinyl chloride | 100 | | 97 | | 70-130 | 3 | | 20 |
| Chloroethane | 102 | | 96 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 105 | | 100 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 96 | | 70-130 | 5 | | 20 |
| Trichloroethene | 106 | | 101 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 90 | | 70-130 | 11 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 90 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 102 | | 93 | | 70-130 | 9 | | 20 |
| Methyl tert butyl ether | 91 | | 90 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 105 | | 98 | | 70-130 | 7 | | 20 |
| o-Xylene | 102 | | 98 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 110 | | 102 | | 70-130 | 8 | | 20 |
| Dibromomethane | 122 | | 113 | | 70-130 | 8 | | 20 |
| 1,2,3-Trichloropropane | 105 | | 94 | | 70-130 | 11 | | 20 |
| Styrene | 99 | | 95 | | 70-130 | 4 | | 20 |
| Dichlorodifluoromethane | 73 | | 70 | | 70-130 | 4 | | 20 |
| Acetone | 103 | | 101 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 89 | | 87 | | 70-130 | 2 | | 20 |
| 2-Butanone | 96 | | 96 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-12,14-16,18 Batch: WG442679-1 WG442679-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 95 | | 89 | | 70-130 | 7 | | 20 |
| 2-Hexanone | 88 | | 88 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 108 | | 97 | | 70-130 | 11 | | 20 |
| Tetrahydrofuran | 95 | | 88 | | 70-130 | 8 | | 20 |
| 2,2-Dichloropropane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 105 | | 99 | | 70-130 | 6 | | 20 |
| 1,3-Dichloropropane | 106 | | 98 | | 70-130 | 8 | | 20 |
| 1,1,1,2-Tetrachloroethane | 91 | | 86 | | 70-130 | 6 | | 20 |
| Bromobenzene | 99 | | 90 | | 70-130 | 10 | | 20 |
| n-Butylbenzene | 84 | | 77 | | 70-130 | 9 | | 20 |
| sec-Butylbenzene | 102 | | 93 | | 70-130 | 9 | | 20 |
| tert-Butylbenzene | 99 | | 92 | | 70-130 | 7 | | 20 |
| o-Chlorotoluene | 100 | | 90 | | 70-130 | 11 | | 20 |
| p-Chlorotoluene | 99 | | 90 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 95 | | 86 | | 70-130 | 10 | | 20 |
| Hexachlorobutadiene | 95 | | 84 | | 70-130 | 12 | | 20 |
| Isopropylbenzene | 104 | | 98 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 106 | | 96 | | 70-130 | 10 | | 20 |
| Naphthalene | 91 | | 84 | | 70-130 | 8 | | 20 |
| n-Propylbenzene | 102 | | 94 | | 70-130 | 8 | | 20 |
| 1,2,3-Trichlorobenzene | 89 | | 82 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-12,14-16,18 Batch: WG442679-1 WG442679-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 90 | | 80 | | 70-130 | 12 | | 20 |
| 1,3,5-Trimethylbenzene | 97 | | 89 | | 70-130 | 9 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 92 | | 70-130 | 8 | | 20 |
| Ethyl ether | 103 | | 99 | | 70-130 | 4 | | 20 |
| Isopropyl Ether | 94 | | 92 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 88 | | 85 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | 123 | | 123 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 98 | | 70-130 |
| Toluene-d8 | 98 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 96 | | 70-130 |
| Dibromofluoromethane | 100 | | 101 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1017949-01A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-01B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-02A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-02B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-03A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-03B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-04A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-04B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-05A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-05B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-06A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-06B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-07A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-07B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-08A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-08B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-09A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-09B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-10A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-10B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-11A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-11B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-12A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-12B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-13A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-13B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-14A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1017949
**Report Date:** 11/12/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1017949-14B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-15A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-15B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-16A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-16B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-17A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-17B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-18A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-18B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1017949-19A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-19B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-20A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-20B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-21A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |
| L1017949-21B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | HOLD(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1017949
**Project Number:** 0114119 **Report Date:** 11/12/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1017949 |
| **Project Number:** | 0114119 | **Report Date:** | 11/12/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1017949
**Project Number:** 0114119 **Report Date:** 11/12/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1017944

## Client Information

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267 6447

Email: JASON.FLATTERY@ERM.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON. FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr

Date Due: 11/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 (ANALYSIS) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 17944 1 | APS-105-30.0-20101109-01 | 11/09/10 | 16:50 | GW | LJM | 2 | | |
| 2 | APS-104-35.0-20101109-01 | 11/09/10 | 16:48 | GW | LJM | 2 | hold sample | |
| 3 | APS-105-35.0-20101110-01 | 11/10/10 | 08:06 | GW | LJM | 2 | hold sample | |
| 4 | APS-104-40.0-20101110-01 | 11/10/10 | 08:19 | GW | LJM | 2 | | |
| 5 | APS-105-40.0-20101110-01 | 11/10/10 | 08:44 | GW | LJM | 2 | | |
| 6 | APS-104-43.0-20101110-01 | 11/10/10 | 09:46 | GW | LJM | 2 | | |
| 7 | APS-105-53.2-20101110-01 | 11/10/10 | 10:08 | GW | LJM | 2 | | |
| 8 | APS-105-46.8-20101110-01 | 11/10/10 | 09:31 | GW | LJM | 2 | | |
| 9 | APS-105-58.5-20101110-01 | 11/10/10 | 10:49 | GW | LJM | 2 | | |
| 10 | APS-104-48.0-20101110-01 | 11/10/10 | 10:47 | GW | LJM | 2 | | |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VIAL | | | | | | | | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | | | | | | | | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 11/10/10 1628 | [illegible] | 11/10/10 1722 |
| [illegible] | 11-10-10 1730 | [illegible] | 11/10/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11121012:16

# CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 11/10/10 | ALPHA Job #: L1017904

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr
Date Due: 11/12/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 (TOTAL # BOTTLES) | Sample Specific Comments |
|---|---|---|---|---|---|---|---|
| 17944 11 | APS-104-82.1-20101110-01 | 11/10/10 | 1601 | GW | LJM | 2 | |
| 12 | APS-104-63.5-20101110-01 | 11/10/10 | 1154 | | | 2 | |
| 13 | APS-105-82.8-20101110-01 | 11/10/10 | 1305 | | | 2 | hold SAMPLE |
| 14 | EB-07-20101110-01 | 11/10/10 | 1420 | | | 2 | |
| 15 | APS-105-86.4-20101110-01 | 11/10/10 | 1353 | | | 2 | |
| 16 | APS-105-77.0-20101110-01 | 11/10/10 | 1208 | | | 2 | |
| 17 | APS-104-68.1-20101110-01 | 11/10/10 | 1302 | | | 2 | hold SAMPLE |
| 18 | APS-104-72.3-20101110-01 | 11/10/10 | 1410 | | | 2 | |
| 19 | APS-104-77.2-20101110-01 | 11/10/10 | 1508 | | | 2 | hold SAMPLE |
| 20 | APS-107-20.0-20101110-01 | 11/10/10 | 1510 | | | 2 | HOLD SAMPLE 11/11/10 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VOA | | | | | | | | | | | | | | | | |
| Preservative | HCl | | | | | | | | | | | | | | | | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/10/10 1628 | [signature] | 11/10/10 1628 |
| [signature] | 11-10-10 | [signature] | 11/10/10 |

Please print clearly, legibly, and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to ALPHA's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11121012:16

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1074609

**Client Information**

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.

Date Due: 11/12/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 1794 01 | APS-107-25.0 20101110-01 | ~~10/11/10~~ 11/10/10 | 1549 | GW | LJM | 2 | hold SAMPLE | |

| | |
|---|---|
| Container Type | VOA |
| Preservative | HCL |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 10/11/10 1628 | [illegible] | 11/10/10 16[illegible] |
| [illegible] | 11-10-10 1730 | Lam Cheung | 11/10/10 17[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11121012:16

# CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1017949

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

## Client Information

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267 6947
Email: JASON.FLATTERY@ERM.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON. FLATTERY
ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.
Date Due: 10/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 17949 1 | APS-105-30.0-20101109-01 | 11/09/10 | 16:50 | GW | LJM | 2 | | |
| 2 | APS-104-35.0-20101109-01 | 11/09/10 | 16:48 | GW | LJM | 2 | HOLD SAMPLE | |
| 3 | APS-105-35.0-20101110-01 | 11/10/10 | 08:06 | GW | LJM | 2 | HOLD SAMPLE | |
| 4 | APS-104-40.0-20101110-01 | 11/10/10 | 08:19 | GW | LJM | 2 | | |
| 5 | APS-105-40.0-20101110-01 | 11/10/10 | 08:44 | GW | LJM | 2 | | |
| 6 | APS-104-43.0-20101110-01 | 11/10/10 | 0946 | GW | LJM | 2 | | |
| 7 | APS-105-53.2-20101110-01 | 11/10/10 | 11:08 | GW | LJM | 2 | | |
| 8 | APS-105-46.8-20101110-01 | 11/10/10 | 09:31 | GW | LJM | 2 | | |
| 9 | APS-105-58.5-20101110-01 | 11/10/10 | 10:49 | GW | LJM | 2 | | |
| 10 | APS-104-48.0-20101110-01 | 11/10/10 | 10:47 | GW | LJM | 2 | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 10/11/10 1628 | [illegible] | 11/10/10 1722 |
| [illegible] | 11-10-10 1730 | [illegible] | 11/10/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1017994

## Client Information

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr

Date Due: 11/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 17949 11 | APS-104-82.1-20101110-01 | 11/10/10 | 1601 | GW | LJM | 2 | | |
| 12 | APS-104-63.5-20101110-01 | 11/10/10 | 1154 | | | 2 | | |
| 13 | APS-105-82.8-20101110-01 | 11/10/10 | 1305 | | | 2 | hold SAMPLE | |
| 14 | EB-07-20101110-01 | 11/10/10 | 1420 | | | 2 | | |
| 15 | APS-105-86.4-20101110-01 | 11/10/10 | 1353 | | | 2 | | |
| 16 | APS-105-77.0-20101110-01 | 11/10/10 | 1208 | | | 2 | | |
| 17 | APS-104-68.1-20101110-01 | 11/10/10 | 1302 | | | 2 | hold SAMPLE | |
| 18 | APS-104-72.3-20101110-01 | 11/10/10 | 1410 | | | 2 | | |
| 19 | APS-104-77.2-20101110-01 | 11/10/10 | 1508 | | | 2 | hold SAMPLE | |
| 20 | APS-107-20.0-20101110-01 | 11/10/10 | 1570 | | | 2 | | |

Container Type: VOA

Preservative: HCl

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/10/10 1628 | [signature] | 11/10/10 |
| [signature] | 11-10-10 | [signature] | 11/10/10 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11121012:16

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1017419

## Client Information

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.

Date Due: 11/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 79419 2 | APS-107-25.0 20101110-01 | 10/11/10 | 1549 | GW | LJM | 2 | hold SAMPLE | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| | |
|---|---|
| Container Type | VOA |
| Preservative | HCL |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 10/11/10 1628 | [signature] | 11/10/10 16 |
| [signature] | 11-10-10 1730 | [signature] | 11/10/10 17 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:11121012:16

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Quimby.i  Calibration Date: 11-NOV-2010  Time: 15:26

Lab File ID: 1111N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .30833 | .1 | 27 | 20 | F |
| chloromethane | .62163 | .59268 | .1 | 5 | 20 | |
| vinyl chloride | .4285 | .42747 | .1 | 0 | 20 | |
| bromomethane | .32572 | .29053 | .1 | 11 | 20 | |
| chloroethane | .35035 | .35666 | .1 | -2 | 20 | |
| trichlorofluoromethane | .6241 | .74642 | .1 | -20 | 20 | |
| ethyl ether | .13811 | .14209 | .05 | -3 | 20 | |
| acetone | 100 | 103 | .1 | -3 | 20 | |
| 1,1,-dichloroethene | .31495 | .33083 | .1 | -5 | 20 | |
| methylene chloride | .34246 | .37588 | .1 | -10 | 20 | |
| carbon disulfide | .90993 | .80982 | .1 | 11 | 20 | |
| methyl tert butyl ether | .48005 | .4353 | .1 | 9 | 20 | |
| trans-1,2-dichloroethene | .36264 | .36531 | .1 | -1 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0972 | .05 | 6 | 20 | |
| 1,1-dichloroethane | .70419 | .71603 | .2 | -2 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .64156 | .05 | 12 | 20 | |
| 2-butanone | .06714 | .06441 | .1 | 4 | 20 | F |
| 2,2-dichloropropane | .34238 | .32083 | .05 | 6 | 20 | |
| cis-1,2-dichloroethene | .37932 | .4158 | .1 | -10 | 20 | |
| chloroform | .61594 | .6899 | .2 | -12 | 20 | |
| bromochloromethane | .12887 | .13994 | .05 | -9 | 20 | |
| tetrahydrofuran | .04454 | .04241 | .05 | 5 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .45794 | .1 | 7 | 20 | |
| 1,1-dichloropropene | .52258 | .5311 | .05 | -2 | 20 | |
| carbontetrachloride | .35402 | .33675 | .1 | 5 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .44789 | .05 | 4 | 20 | |
| 1,2-dichloroethane | .39579 | .41376 | .1 | -5 | 20 | |
| benzene | 1.5397 | 1.6628 | .5 | -8 | 20 | |
| trichloroethene | .37211 | .39408 | .2 | -6 | 20 | |
| 1,2-dichloropropane | .35603 | .38126 | .1 | -7 | 20 | |
| bromodichloromethane | .35384 | .35789 | .2 | -1 | 20 | |
| 1,4-dioxane | .00109 | .00135 | .05 | -23 | 20 | F |
| dibromomethane | .12703 | .15518 | .05 | -22 | 20 | F |
| 4-methyl-2-pentanone | .04832 | .0461 | .1 | 5 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .37247 | .2 | 10 | 20 | |
| toluene | 1.2794 | 1.3276 | .4 | -4 | 20 | |
| trans-1,3-dichloropropene | .38217 | .31419 | .1 | 18 | 20 | |
| 1,1,2-trichloroethane | .21745 | .23285 | .1 | -7 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Quimby.i  Calibration Date: 11-NOV-2010  Time: 15:26

Lab File ID: 1111N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 2-hexanone | .12616 | .11121 | .1 | 12 | 20 |
| 1,3-dichloropropane | .48008 | .50998 | .05 | -6 | 20 |
| tetrachloroethene | .50656 | .5186 | .2 | -2 | 20 |
| chlorodibromomethane | .22898 | .20952 | .1 | 8 | 20 |
| 1,2-dibromoethane | .21845 | .2295 | .1 | -5 | 20 |
| chlorobenzene | 1.3784 | 1.3593 | .5 | 1 | 20 |
| 1,1,1,2-tetrachloroethane | .33964 | .30762 | .05 | 9 | 20 |
| ethyl benzene | 2.6402 | 2.7835 | .1 | -5 | 20 |
| p/m xylene | 1.0415 | 1.0935 | .1 | -5 | 20 |
| o xylene | .99264 | 1.0157 | .3 | -2 | 20 |
| styrene | 1.5901 | 1.5712 | .31 | 1 | 20 |
| isopropylbenzene | 2.7063 | 2.8246 | .1 | -4 | 20 |
| bromoform | .16937 | .15298 | .1 | 10 | 20 |
| 1,1,2,2,-tetrachloroethane | .4575 | .46694 | .3 | -2 | 20 |
| 1,2,3-trichloropropane | .359 | .37577 | .05 | -5 | 20 |
| n-propylbenzene | 5.3817 | 5.4946 | .05 | -2 | 20 |
| bromobenzene | .8701 | .86358 | .05 | 1 | 20 |
| 1,3,5-trimethybenzene | 3.7262 | 3.6044 | .05 | 3 | 20 |
| 2-chlorotoluene | 3.6146 | 3.6206 | .05 | 0 | 20 |
| 4-chorotoluene | 3.3404 | 3.3197 | .05 | 1 | 20 |
| tert-butylbenzene | 3.0713 | 3.0515 | .05 | 1 | 20 |
| 1,2,4-trimethylbenzene | 3.7510 | 3.7680 | .05 | 0 | 20 |
| sec-butylbenzene | 4.6047 | 4.6839 | .05 | -2 | 20 |
| p-isopropyltoluene | 3.5701 | 3.7684 | .05 | -6 | 20 |
| 1,3-dichlorobenzene | 1.8745 | 1.8487 | .6 | 1 | 20 |
| 1,4-dichlorobenzene | 1.7904 | 1.8294 | .5 | -2 | 20 |
| n-butylbenzene | 4.0323 | 3.4079 | .05 | 15 | 20 |
| 1,2-dichlorobenzene | 1.5779 | 1.5761 | .4 | 0 | 20 |
| 1,2-dibromo-3-chloropropane | 100 | 94.793 | .05 | 5 | 20 |
| 1,2,4-trichlorobenzene | .80062 | .71839 | .2 | 10 | 20 |
| hexachlorobutadiene | .39925 | .38063 | .05 | 5 | 20 |
| naphthalene | 1.1650 | 1.0592 | .05 | 9 | 20 |
| 1,2,3-trichlorobenzene | .59583 | .52863 | .05 | 11 | 20 |
| dibromofluoromethane | .2204 | .21961 | .05 | 0 | 20 |
| 1,2-dichloroethane-d4 | .22618 | .21685 | .05 | 4 | 20 |
| toluene-d8 | 1.2994 | 1.2689 | .05 | 2 | 20 |
| 4-bromofluorobenzene | .89239 | .85897 | .05 | 4 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Jack.i  Calibration Date: 11-NOV-2010  Time: 04:22

Lab File ID: 1111A02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79247 | .62275 | .1 | 21 | 20 | F |
| chloromethane | .84182 | .74623 | .1 | 11 | 20 | |
| vinyl chloride | 1.3738 | 1.0210 | .1 | 26 | 20 | F |
| bromomethane | 1.1065 | .81436 | .1 | 26 | 20 | F |
| chloroethane | .89365 | .67508 | .1 | 24 | 20 | F |
| trichlorofluoromethane | 2.9031 | 2.3400 | .1 | 19 | 20 | |
| ethyl ether | .56072 | .49244 | .05 | 12 | 20 | |
| 1,1,-dichloroethene | 1.5853 | 1.3065 | .1 | 18 | 20 | |
| carbon disulfide | 3.7087 | 2.6931 | .05 | 27 | 20 | F |
| freon-113 | 1.7296 | 1.5268 | .1 | 12 | 20 | |
| methylene chloride | .63013 | .62486 | .05 | 1 | 20 | |
| acetone | 100 | 94.712 | .1 | 5 | 20 | |
| trans-1,2-dichloroethene | .70888 | .64369 | .1 | 9 | 20 | |
| methyl tert butyl ether | 1.2212 | 1.0591 | .1 | 13 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4203 | 1.2653 | .05 | 11 | 20 | |
| Diisopropyl Ether | 2.0664 | 1.7714 | .05 | 14 | 20 | |
| 1,1-dichloroethane | 1.1803 | 1.1234 | .2 | 5 | 20 | |
| cis-1,2-dichloroethene | .74589 | .69374 | .1 | 7 | 20 | |
| 2,2-dichloropropane | .79776 | .8333 | .05 | -4 | 20 | |
| 2-butanone | .15937 | .1416 | .1 | 11 | 20 | |
| bromochloromethane | .34758 | .34041 | .05 | 2 | 20 | |
| chloroform | 1.1767 | 1.2166 | .2 | -3 | 20 | |
| carbontetrachloride | .77298 | .89995 | .1 | -16 | 20 | |
| tetrahydrofuran | .13527 | .12353 | .05 | 9 | 20 | |
| 1,1,1-trichloroethane | 1.0862 | 1.0652 | .1 | 2 | 20 | |
| 1,1-dichloropropene | .99168 | .94207 | .05 | 5 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.2129 | 1.1498 | .05 | 5 | 20 | |
| benzene | 2.7825 | 2.7209 | .5 | 2 | 20 | |
| 1,2-dichloroethane | .72552 | .72155 | .1 | 1 | 20 | |
| trichloroethene | .79783 | .73406 | .2 | 8 | 20 | |
| dibromomethane | .34162 | .34578 | .05 | -1 | 20 | |
| 1,2-dichloropropane | .69079 | .65129 | .1 | 6 | 20 | |
| bromodichloromethane | .87051 | .86009 | .2 | 1 | 20 | |
| 1,4-dioxane | .00212 | .00288 | .05 | -36 | 20 | F |
| cis-1,3-dichloropropene | .87667 | .82079 | .2 | 6 | 20 | |
| toluene | 2.2152 | 2.0968 | .4 | 5 | 20 | |
| tetrachloroethene | 1.0165 | .9664 | .2 | 5 | 20 | |
| 4-methyl-2-pentanone | .10936 | .09851 | .1 | 10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Jack.i  Calibration Date: 11-NOV-2010  Time: 04:22

Lab File ID: 1111A02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| trans-1,3-dichloropropene | .7843 | .82643 | .1 | -5 | 20 | |
| 1,1,2-trichloroethane | .43307 | .43268 | .1 | 0 | 20 | |
| chlorodibromomethane | .62522 | .6625 | .1 | -6 | 20 | |
| 1,3-dichloropropane | .88473 | .93684 | .05 | -6 | 20 | |
| 1,2-dibromoethane | .49454 | .50383 | .1 | -2 | 20 | |
| 2-hexanone | .23096 | .20017 | .1 | 13 | 20 | |
| chlorobenzene | 2.3979 | 2.2784 | .5 | 5 | 20 | |
| ethyl benzene | 4.1020 | 4.1202 | .1 | 0 | 20 | |
| 1,1,1,2-tetrachloroethane | .7304 | .7695 | .05 | -5 | 20 | |
| p/m xylene | 1.7387 | 1.7390 | .1 | 0 | 20 | |
| o xylene | 1.6122 | 1.6154 | .3 | 0 | 20 | |
| styrene | 2.7207 | 2.7619 | .3 | -2 | 20 | |
| bromoform | .47714 | .62028 | .1 | -30 | 20 | F |
| isopropylbenzene | 4.2038 | 4.1634 | .1 | 1 | 20 | |
| bromobenzene | 1.5890 | 1.6988 | .05 | -7 | 20 | |
| n-propylbenzene | 7.2092 | 7.6557 | .05 | -6 | 20 | |
| 1,1,2,2,-tetrachloroethane | .96526 | .9955 | .3 | -3 | 20 | |
| 2-chlorotoluene | 5.2746 | 4.3757 | .05 | 17 | 20 | |
| 1,2,3-trichloropropane | .7773 | .81671 | .05 | -5 | 20 | |
| 1,3,5-trimethybenzene | 6.2997 | 4.9341 | .05 | 22 | 20 | F |
| 4-chorotoluene | 4.3249 | 4.6365 | .05 | -7 | 20 | |
| tert-butylbenzene | 4.5038 | 4.5083 | .05 | 0 | 20 | |
| 1,2,4-trimethylbenzene | 4.8131 | 4.5540 | .05 | 5 | 20 | |
| sec-butylbenzene | 6.2802 | 6.4032 | .05 | -2 | 20 | |
| p-isopropyltoluene | 5.1272 | 4.9865 | .05 | 3 | 20 | |
| 1,3-dichlorobenzene | 3.5415 | 3.3972 | .6 | 4 | 20 | |
| 1,4-dichlorobenzene | 3.3597 | 3.3929 | .5 | -1 | 20 | |
| n-butylbenzene | 3.6821 | 3.4412 | .05 | 7 | 20 | |
| 1,2-dichlorobenzene | 2.9394 | 2.8362 | .4 | 4 | 20 | |
| 1,2-dibromo-3-chloropropane | .0991 | .12209 | .05 | -23 | 20 | F |
| hexachlorobutadiene | .57048 | .53025 | .05 | 7 | 20 | |
| 1,2,4-trichlorobenzene | 1.1839 | 1.0144 | .2 | 14 | 20 | |
| naphthalene | 1.5721 | 1.2125 | .05 | 23 | 20 | F |
| 1,2,3-trichlorobenzene | 1.0038 | .81887 | .05 | 18 | 20 | |
| dibromofluoromethane | .27504 | .2749 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .25531 | .23511 | .05 | 8 | 20 | |
| toluene-d8 | 1.1660 | 1.1865 | .05 | -2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Jack.i  Calibration Date: 11-NOV-2010  Time: 04:22

Lab File ID: 1111A02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 4-bromofluorobenzene | .6928 | .71272 | .05 | -3 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Jack.i  Calibration Date: 11-NOV-2010  Time: 04:06

Lab File ID: 1111A01  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 12:16  20:20

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79359 | .67366 | .1 | 15 | 20 | |
| chloromethane | .76165 | .77875 | .1 | -2 | 20 | |
| vinyl chloride | 1.2937 | 1.0617 | .1 | 18 | 20 | |
| bromomethane | 1.0628 | .88584 | .1 | 17 | 20 | |
| chloroethane | 100 | 91.836 | .1 | 8 | 20 | |
| trichlorofluoromethane | 2.8637 | 2.4771 | .1 | 13 | 20 | |
| ethyl ether | .6402 | .54517 | .05 | 15 | 20 | |
| 1,1,-dichloroethene | 1.5646 | 1.3171 | .1 | 16 | 20 | |
| carbon disulfide | 3.7184 | 2.8486 | .1 | 23 | 20 | F |
| freon-113 | 1.6735 | 1.5363 | .1 | 8 | 20 | |
| methylene chloride | .7102 | .71492 | .1 | -1 | 20 | |
| acetone | .10595 | .08767 | .1 | 17 | 20 | |
| trans-1,2-dichloroethene | .72006 | .71041 | .1 | 1 | 20 | |
| methyl tert butyl ether | 1.3599 | 1.1578 | .1 | 15 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.5976 | 1.4664 | .05 | 8 | 20 | |
| Diisopropyl Ether | 2.2938 | 2.1087 | .01 | 8 | 20 | |
| 1,1-dichloroethane | 1.2337 | 1.2582 | .2 | -2 | 20 | |
| cis-1,2-dichloroethene | .78109 | .80469 | .1 | -3 | 20 | |
| 2,2-dichloropropane | .76922 | .88236 | .05 | -15 | 20 | |
| 2-butanone | .17915 | .13961 | .1 | 22 | 20 | F |
| bromochloromethane | .35836 | .37604 | .05 | -5 | 20 | |
| chloroform | 1.2656 | 1.3600 | .2 | -7 | 20 | |
| carbontetrachloride | .72871 | .93833 | .1 | -29 | 20 | F |
| tetrahydrofuran | .15004 | .13138 | .05 | 12 | 20 | |
| 1,1,1-trichloroethane | 1.0044 | 1.0938 | .1 | -9 | 20 | |
| 1,1-dichloropropene | .98348 | .97426 | .05 | 1 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.3137 | 1.3581 | .05 | -3 | 20 | |
| benzene | 2.9169 | 3.0612 | .5 | -5 | 20 | |
| 1,2-dichloroethane | .79489 | .79512 | .1 | 0 | 20 | |
| trichloroethene | .83684 | .80402 | .2 | 4 | 20 | |
| dibromomethane | .37699 | .37281 | .05 | 1 | 20 | |
| 1,2-dichloropropane | .71262 | .71248 | .1 | 0 | 20 | |
| bromodichloromethane | .8581 | .93016 | .2 | -8 | 20 | |
| 1,4-dioxane | .00269 | .003 | .05 | -12 | 20 | F |
| cis-1,3-dichloropropene | .91649 | 1.0049 | .2 | -10 | 20 | |
| toluene | 2.3166 | 2.3318 | .4 | -1 | 20 | |
| tetrachloroethene | .95172 | .98311 | .2 | -3 | 20 | |
| 4-methyl-2-pentanone | .12775 | .1081 | .1 | 15 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Jack.i  Calibration Date: 11-NOV-2010  Time: 04:06

Lab File ID: 1111A01  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 12:16  20:20

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| trans-1,3-dichloropropene | .86603 | .94047 | .1 | -9 | 20 |
| 1,1,2-trichloroethane | .47561 | .52607 | .1 | -11 | 20 |
| chlorodibromomethane | .67582 | .75401 | .1 | -12 | 20 |
| 1,3-dichloropropane | .97397 | 1.0454 | .05 | -7 | 20 |
| 1,2-dibromoethane | .5618 | .56449 | .1 | 0 | 20 |
| 2-hexanone | .26983 | .23059 | .1 | 15 | 20 |
| chlorobenzene | 2.5802 | 2.6367 | .5 | -2 | 20 |
| ethyl benzene | 4.1945 | 4.5541 | .1 | -9 | 20 |
| 1,1,1,2-tetrachloroethane | .77692 | .9196 | .05 | -18 | 20 |
| p/m xylene | 1.8996 | 1.9332 | .1 | -2 | 20 |
| o xylene | 1.8226 | 1.9185 | .3 | -5 | 20 |
| styrene | 3.1792 | 3.2495 | .3 | -2 | 20 |
| bromoform | 100 | 119 | .1 | -19 | 20 |
| isopropylbenzene | 4.1147 | 4.5963 | .1 | -12 | 20 |
| bromobenzene | 1.8445 | 1.9028 | .05 | -3 | 20 |
| n-propylbenzene | 7.9441 | 8.5549 | .05 | -8 | 20 |
| 1,1,2,2,-tetrachloroethane | 1.1920 | 1.1534 | .3 | 3 | 20 |
| 2-chlorotoluene | 5.9328 | 5.1440 | .05 | 13 | 20 |
| 1,2,3-trichloropropane | .9266 | .90926 | .05 | 2 | 20 |
| 1,3,5-trimethybenzene | 5.8898 | 6.0909 | .05 | -3 | 20 |
| 4-chorotoluene | 5.0503 | 5.3993 | .05 | -7 | 20 |
| tert-butylbenzene | 4.7455 | 5.0489 | .05 | -6 | 20 |
| 1,2,4-trimethylbenzene | 6.1466 | 6.5239 | .05 | -6 | 20 |
| sec-butylbenzene | 6.5039 | 6.8385 | .01 | -5 | 20 |
| p-isopropyltoluene | 5.6045 | 5.9977 | .05 | -7 | 20 |
| 1,3-dichlorobenzene | 3.9108 | 3.8943 | .6 | 0 | 20 |
| 1,4-dichlorobenzene | 3.6851 | 3.9355 | .5 | -7 | 20 |
| n-butylbenzene | 4.2635 | 4.531 | .05 | -6 | 20 |
| 1,2-dichlorobenzene | 3.3959 | 3.3240 | .4 | 2 | 20 |
| 1,2-dibromo-3-chloropropane | .11129 | .12773 | .05 | -15 | 20 |
| hexachlorobutadiene | .54192 | .53266 | .05 | 2 | 20 |
| 1,2,4-trichlorobenzene | 1.6085 | 1.4321 | .2 | 11 | 20 |
| naphthalene | 2.6379 | 2.1559 | .05 | 18 | 20 |
| 1,2,3-trichlorobenzene | 1.1838 | 1.0424 | .05 | 12 | 20 |
| dibromofluoromethane | .27773 | .26785 | .05 | 4 | 20 |
| 1,2-dichloroethane-d4 | .24804 | .24333 | .05 | 2 | 20 |
| toluene-d8 | 1.1612 | 1.2064 | .01 | -4 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1017949

Instrument ID: Jack.i  Calibration Date: 11-NOV-2010  Time: 04:06

Lab File ID: 1111A01  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 12:16  20:20

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 4-bromofluorobenzene | .6927 | .7116 | .05 | -3 | 20 |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018064 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/17/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018064-01 | APS-107-30.0-20101110-01 | WAYLAND, MA | 11/10/10 16:27 |
| L1018064-02 | EB-06-20101110-10 | WAYLAND, MA | 11/10/10 16:36 |
| L1018064-03 | APS-106-20.0-20101111-01 | WAYLAND, MA | 11/11/10 07:44 |
| L1018064-04 | APS-107-40.0-20101111-01 | WAYLAND, MA | 11/11/10 08:00 |
| L1018064-05 | APS-107-45.0-20101111-01 | WAYLAND, MA | 11/11/10 08:41 |
| L1018064-06 | APS-107-50.0-20101111-01 | WAYLAND, MA | 11/11/10 09:35 |
| L1018064-07 | APS-106-25.0-20101111-01 | WAYLAND, MA | 11/11/10 08:44 |
| L1018064-08 | APS-106-30.0-20101111-01 | WAYLAND, MA | 11/11/10 09:24 |
| L1018064-09 | APS-106-35.0-20101111-01 | WAYLAND, MA | 11/11/10 10:16 |
| L1018064-10 | APS-106-41.0-20101111-01 | WAYLAND, MA | 11/11/10 11:16 |
| L1018064-11 | APS-107-55.0-20101111-01 | WAYLAND, MA | 11/11/10 10:26 |
| L1018064-12 | APS-107-60.0-20101111-01 | WAYLAND, MA | 11/11/10 11:05 |
| L1018064-13 | APS-106-46.0-20101111-01 | WAYLAND, MA | 11/11/10 12:06 |
| L1018064-14 | APS-107-81.7-20101111-01 | WAYLAND, MA | 11/11/10 12:31 |
| L1018064-15 | APS-106-51.3-20101111-01 | WAYLAND, MA | 11/11/10 13:16 |
| L1018064-16 | APS-107-89.8-20101111-01 | WAYLAND, MA | 11/11/10 13:45 |
| L1018064-17 | EB-09-20101111-01 | WAYLAND, MA | 11/11/10 14:30 |
| L1018064-18 | APS-106-70.3-20101110-01 | WAYLAND, MA | 11/11/10 14:39 |
| L1018064-19 | APS-106-76.6-20101111-01 | WAYLAND, MA | 11/11/10 15:35 |
| L1018064-20 | APS-109-30.0-20101111-01 | WAYLAND, MA | 11/11/10 15:57 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018064
**Project Number:** 0114119 **Report Date:** 11/17/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

This report replaces the report submitted on November 15, 2010. The Client ID for L1018064-13 was amended.

MCP Related Narratives

Volatile Organics

L1018064-19 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG442778-1 LCS recoveries, associated with L1018064-02 and -17, are above the acceptance criteria

**Project Name:** RAYTHEON **Lab Number:** L1018064
**Project Number:** 0114119 **Report Date:** 11/17/10

**Case Narrative (continued)**

for Bromoform (132%) and 1,4-Dioxane (147%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds In addition, the associated WG442778-1/-2 LCS/LCSD RPD is above the acceptance criteria for 1,4-Dioxane (23%)..

The WG442778-1/-2 LCS/LCSD RPDs, associated with L1018064-02 and -17, are above the acceptance criteria for 2-Butanone (23%) and 1,2-Dibromo-3-chloropropane (36%); however, the individual LCS/LCSD recoveries are within method limits.

The WG443050-2 LCSD recoveries, associated with L1018064-13 and -15, are below the acceptance criteria for Bromomethane (67%) and Carbon disulfide (64%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG443050-1/-2 LCS/LCSD RPD, associated with L1018064-13 and -15, is above the acceptance criteria for 1,2-Dibromo-3-chloropropane (26%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1018064-02, -14, -16 and -17, did not meet the method required minimum response factors for 1,4-Dioxane; and utilized a quadratic fit for Acetone.

The initial calibration, associated with L1018064-04, -05, -06, -09 through -12, -18 and -19, did not meet the method required minimum response factors for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The initial calibration, associated with L1018064-13 and -15, did not meet the method required minimum response factor for 1,4-Dioxane and utilized a quadratic fit for Bromoform.

The continuing calibration standards, associated with L1018064-02, -04, -05, -06 and -09 through -19, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/17/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON
**Project Number:** 0114119
**Lab Number:** L1018064
**Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-02 | Date Collected: | 11/10/10 16:36 |
| Client ID: | EB-06-20101110-10 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/12/10 09:29 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-02 Date Collected: 11/10/10 16:36

Client ID: EB-06-20101110-10 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-02 | Date Collected: | 11/10/10 16:36 |
| Client ID: | EB-06-20101110-10 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-04 | Date Collected: | 11/11/10 08:00 |
| Client ID: | APS-107-40.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/12/10 15:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-04 Date Collected: 11/11/10 08:00

Client ID: APS-107-40.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-04 | Date Collected: | 11/11/10 08:00 |
| Client ID: | APS-107-40.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-05 | Date Collected: | 11/11/10 08:41 |
| Client ID: | APS-107-45.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/12/10 16:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | 1.1 | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-05 Date Collected: 11/11/10 08:41

Client ID: APS-107-45.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-05 | Date Collected: | 11/11/10 08:41 |
| Client ID: | APS-107-45.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-06 | Date Collected: | 11/11/10 09:35 |
| Client ID: | APS-107-50.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/12/10 16:45 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 2.7 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | 1.6 | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-06 Date Collected: 11/11/10 09:35

Client ID: APS-107-50.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-06 | Date Collected: | 11/11/10 09:35 |
| Client ID: | APS-107-50.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-09 | Date Collected: | 11/11/10 10:16 |
| Client ID: | APS-106-35.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 08:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-09 Date Collected: 11/11/10 10:16

Client ID: APS-106-35.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 34 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-09 | Date Collected: | 11/11/10 10:16 |
| Client ID: | APS-106-35.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-10 | Date Collected: | 11/11/10 11:16 |
| Client ID: | APS-106-41.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 08:44 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-10 Date Collected: 11/11/10 11:16

Client ID: APS-106-41.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 28 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-10 | Date Collected: | 11/11/10 11:16 |
| Client ID: | APS-106-41.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-11 | Date Collected: | 11/11/10 10:26 |
| Client ID: | APS-107-55.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 09:16 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.1 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-11 Date Collected: 11/11/10 10:26

Client ID: APS-107-55.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-11 | Date Collected: | 11/11/10 10:26 |
| Client ID: | APS-107-55.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-12 | Date Collected: | 11/11/10 11:05 |
| Client ID: | APS-107-60.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 09:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 3.2 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 6.3 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 54 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-12 Date Collected: 11/11/10 11:05

Client ID: APS-107-60.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 77 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-12 | Date Collected: | 11/11/10 11:05 |
| Client ID: | APS-107-60.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 14 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-13 | Date Collected: | 11/11/10 12:06 |
| Client ID: | APS-106-46.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 09:39 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-13 Date Collected: 11/11/10 12:06

Client ID: APS-106-46.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 150 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-13 | Date Collected: | 11/11/10 12:06 |
| Client ID: | APS-106-46.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 7.2 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 70-130 |
| Toluene-d8 | 107 | | 70-130 |
| 4-Bromofluorobenzene | 115 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-14 | Date Collected: | 11/11/10 12:31 |
| Client ID: | APS-107-81.7-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 09:55 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-14 Date Collected: 11/11/10 12:31

Client ID: APS-107-81.7-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-14 | Date Collected: | 11/11/10 12:31 |
| Client ID: | APS-107-81.7-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-15 | Date Collected: | 11/11/10 13:16 |
| Client ID: | APS-106-51.3-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 10:11 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 2.4 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 4.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 36 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-15 Date Collected: 11/11/10 13:16

Client ID: APS-106-51.3-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 32 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-15 | Date Collected: | 11/11/10 13:16 |
| Client ID: | APS-106-51.3-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 117 | | 70-130 |
| Dibromofluoromethane | 90 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-16 | Date Collected: | 11/11/10 13:45 |
| Client ID: | APS-107-89.8-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 10:27 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-16 Date Collected: 11/11/10 13:45

Client ID: APS-107-89.8-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-16 | Date Collected: | 11/11/10 13:45 |
| Client ID: | APS-107-89.8-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 113 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-17 | Date Collected: | 11/11/10 14:30 |
| Client ID: | EB-09-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/12/10 10:02 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-17 Date Collected: 11/11/10 14:30

Client ID: EB-09-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-17 | Date Collected: | 11/11/10 14:30 |
| Client ID: | EB-09-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 90 | | 70-130 |
| Toluene-d8 | 108 | | 70-130 |
| 4-Bromofluorobenzene | 111 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-18 | Date Collected: | 11/11/10 14:39 |
| Client ID: | APS-106-70.3-20101110-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 10:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 80 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-18 Date Collected: 11/11/10 14:39

Client ID: APS-106-70.3-20101110-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-18 | Date Collected: | 11/11/10 14:39 |
| Client ID: | APS-106-70.3-20101110-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018064-19 D | Date Collected: | 11/11/10 15:35 |
| Client ID: | APS-106-76.6-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 10:50 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroform | ND | | ug/l | 2.5 | -- | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Tetrachloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Benzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Toluene | ND | | ug/l | 2.5 | -- | 2.5 |
| Ethylbenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Bromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Vinyl chloride | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichloroethene | 130 | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-19 D Date Collected: 11/11/10 15:35

Client ID: APS-106-76.6-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 5.0 | -- | 2.5 |
| p/m-Xylene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Xylene | ND | | ug/l | 2.5 | -- | 2.5 |
| cis-1,2-Dichloroethene | 8.0 | | ug/l | 2.5 | -- | 2.5 |
| Dibromomethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Styrene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Acetone | ND | | ug/l | 12 | -- | 2.5 |
| Carbon disulfide | ND | | ug/l | 5.0 | -- | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | -- | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | -- | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | -- | 2.5 |
| Bromochloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Tetrahydrofuran | ND | | ug/l | 25 | -- | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Bromobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 1.5 | -- | 2.5 |
| Isopropylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| Naphthalene | ND | | ug/l | 5.0 | -- | 2.5 |
| n-Propylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl ether | ND | | ug/l | 5.0 | -- | 2.5 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018064-19 D Date Collected: 11/11/10 15:35

Client ID: APS-106-76.6-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,4-Dioxane | ND | | ug/l | 620 | -- | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/12/10 06:44
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-06 Batch: WG442755-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064
**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/12/10 06:44
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-06 Batch: WG442755-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/12/10 06:44
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-06 Batch: WG442755-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 98 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/12/10 06:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02,17 Batch: WG442778-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/12/10 06:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02,17 Batch: WG442778-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/12/10 06:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02,17 Batch: WG442778-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 87 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 115 | | 70-130 |
| D bromofluoromethane | 93 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 06:39
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 09-12,18-19 Batch: WG443041-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 06:39
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 09-12,18-19 Batch: WG443041-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 06:39
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 09-12,18-19 Batch: WG443041-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| D bromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:07
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 13,15 Batch: WG443050-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:07
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 13,15 Batch: WG443050-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:07
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 13,15 Batch: WG443050-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 70-130 |
| Toluene-d8 | 107 | | 70-130 |
| 4-Bromofluorobenzene | 121 | | 70-130 |
| D bromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:23
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 14,16 Batch: WG443051-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:23
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 14,16 Batch: WG443051-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018064

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:23
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 14,16 Batch: WG443051-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 90 | | 70-130 |
| Toluene-d8 | 106 | | 70-130 |
| 4-Bromofluorobenzene | 118 | | 70-130 |
| D bromofluoromethane | 95 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG442755-1 WG442755-2 | | | | | | | | |
| Methylene chloride | 91 | | 96 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethane | 88 | | 93 | | 70-130 | 6 | | 20 |
| Chloroform | 96 | | 98 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 79 | | 87 | | 70-130 | 10 | | 20 |
| 1,2-Dichloropropane | 92 | | 96 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 87 | | 94 | | 70-130 | 8 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 100 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 85 | | 92 | | 70-130 | 8 | | 20 |
| 1,2-Dichloroethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 81 | | 86 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 88 | | 94 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 79 | | 81 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 77 | | 82 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 90 | | 93 | | 70-130 | 3 | | 20 |
| Bromoform | 87 | | 100 | | 70-130 | 14 | | 20 |
| 1,1,2,2-Tetrachloroethane | 102 | | 106 | | 70-130 | 4 | | 20 |
| Benzene | 94 | | 97 | | 70-130 | 3 | | 20 |
| Toluene | 99 | | 100 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 102 | | 102 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG442755-1 WG442755-2 | | | | | | | | |
| Chloromethane | 84 | | 87 | | 70-130 | 4 | | 20 |
| Bromomethane | 82 | | 86 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 91 | | 95 | | 70-130 | 4 | | 20 |
| Chloroethane | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethene | 91 | | 96 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 87 | | 91 | | 70-130 | 4 | | 20 |
| Trichloroethene | 93 | | 98 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 104 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 103 | | 108 | | 70-130 | 5 | | 20 |
| Methyl tert butyl ether | 79 | | 84 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 101 | | 103 | | 70-130 | 2 | | 20 |
| o-Xylene | 103 | | 104 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 95 | | 100 | | 70-130 | 5 | | 20 |
| Dibromomethane | 101 | | 106 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 103 | | 103 | | 70-130 | 0 | | 20 |
| Styrene | 100 | | 101 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 72 | | 72 | | 70-130 | 0 | | 20 |
| Acetone | 92 | | 78 | | 70-130 | 16 | | 20 |
| Carbon disulfide | 77 | | 82 | | 70-130 | 6 | | 20 |
| 2-Butanone | 85 | | 86 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG442755-1 WG442755-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 76 | | 83 | | 70-130 | 9 | | 20 |
| 2-Hexanone | 82 | | 84 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 90 | | 95 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 82 | | 82 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 81 | | 89 | | 70-130 | 9 | | 20 |
| 1,2-Dibromoethane | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,3-Dichloropropane | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 85 | | 89 | | 70-130 | 5 | | 20 |
| Bromobenzene | 101 | | 104 | | 70-130 | 3 | | 20 |
| n-Butylbenzene | 89 | | 91 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 106 | | 109 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 104 | | 107 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 101 | | 105 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 101 | | 103 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 77 | | 92 | | 70-130 | 18 | | 20 |
| Hexachlorobutadiene | 102 | | 105 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 102 | | 101 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 112 | | 114 | | 70-130 | 2 | | 20 |
| Naphthalene | 89 | | 91 | | 70-130 | 2 | | 20 |
| n-Propylbenzene | 107 | | 109 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 87 | | 93 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG442755-1 WG442755-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 103 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 105 | | 106 | | 70-130 | 1 | | 20 |
| Ethyl ether | 86 | | 91 | | 70-130 | 6 | | 20 |
| Isopropyl Ether | 85 | | 88 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 80 | | 83 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 84 | | 87 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 99 | | 101 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 97 | | 70-130 |
| Toluene-d8 | 103 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 99 | | 70-130 |
| Dibromofluoromethane | 95 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02,17 Batch: WG442778-1 WG442778-2 | | | | | | | | |
| Methylene chloride | 99 | | 98 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 95 | | 96 | | 70-130 | 1 | | 20 |
| Chloroform | 101 | | 98 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 121 | | 117 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 92 | | 87 | | 70-130 | 6 | | 20 |
| Dibromochloromethane | 102 | | 96 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 108 | | 93 | | 70-130 | 15 | | 20 |
| Tetrachloroethene | 98 | | 93 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 90 | | 87 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 83 | | 82 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 102 | | 93 | | 70-130 | 9 | | 20 |
| 1,1,1-Trichloroethane | 95 | | 93 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 104 | | 94 | | 70-130 | 10 | | 20 |
| trans-1,3-Dichloropropene | 102 | | 97 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 95 | | 92 | | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 97 | | 92 | | 70-130 | 5 | | 20 |
| Bromoform | **132** | Q | 114 | | 70-130 | 15 | | 20 |
| 1,1,2,2-Tetrachloroethane | 107 | | 89 | | 70-130 | 18 | | 20 |
| Benzene | 101 | | 95 | | 70-130 | 6 | | 20 |
| Toluene | 91 | | 92 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 96 | | 95 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02,17 Batch: WG442778-1 WG442778-2 | | | | | | | | |
| Chloromethane | 91 | | 88 | | 70-130 | 3 | | 20 |
| Bromomethane | 83 | | 79 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 72 | | 70 | | 70-130 | 3 | | 20 |
| Chloroethane | 76 | | 74 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 83 | | 81 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 90 | | 70-130 | 3 | | 20 |
| Trichloroethene | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 87 | | 70-130 | 9 | | 20 |
| 1,3-Dichlorobenzene | 94 | | 86 | | 70-130 | 9 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 92 | | 70-130 | 7 | | 20 |
| Methyl tert butyl ether | 93 | | 81 | | 70-130 | 14 | | 20 |
| p/m-Xylene | 96 | | 96 | | 70-130 | 0 | | 20 |
| o-Xylene | 102 | | 97 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 94 | | 97 | | 70-130 | 3 | | 20 |
| Dibromomethane | 103 | | 96 | | 70-130 | 7 | | 20 |
| 1,2,3-Trichloropropane | 101 | | 91 | | 70-130 | 10 | | 20 |
| Styrene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 74 | | 73 | | 70-130 | 1 | | 20 |
| Acetone | 102 | | 91 | | 70-130 | 11 | | 20 |
| Carbon disulfide | 76 | | 76 | | 70-130 | 0 | | 20 |
| 2-Butanone | 111 | | 88 | | 70-130 | **23** | Q | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02,17 Batch: WG442778-1 WG442778-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 103 | | 90 | | 70-130 | 13 | | 20 |
| 2-Hexanone | 97 | | 88 | | 70-130 | 10 | | 20 |
| Bromochloromethane | 100 | | 96 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 101 | | 86 | | 70-130 | 16 | | 20 |
| 2,2-Dichloropropane | 109 | | 106 | | 70-130 | 3 | | 20 |
| 1,2-Dibromoethane | 106 | | 94 | | 70-130 | 12 | | 20 |
| 1,3-Dichloropropane | 103 | | 97 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | 104 | | 95 | | 70-130 | 9 | | 20 |
| Bromobenzene | 99 | | 91 | | 70-130 | 8 | | 20 |
| n-Butylbenzene | 96 | | 84 | | 70-130 | 13 | | 20 |
| sec-Butylbenzene | 106 | | 94 | | 70-130 | 12 | | 20 |
| tert-Butylbenzene | 104 | | 95 | | 70-130 | 9 | | 20 |
| o-Chlorotoluene | 80 | | 75 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 125 | | 87 | | 70-130 | **36** | Q | 20 |
| Hexachlorobutadiene | 91 | | 84 | | 70-130 | 8 | | 20 |
| Isopropylbenzene | 100 | | 95 | | 70-130 | 5 | | 20 |
| p-Isopropyltoluene | 99 | | 90 | | 70-130 | 10 | | 20 |
| Naphthalene | 86 | | 74 | | 70-130 | 15 | | 20 |
| n-Propylbenzene | 108 | | 99 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 77 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02,17 Batch: WG442778-1 WG442778-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 79 | | 70-130 | 12 | | 20 |
| 1,3,5-Trimethylbenzene | 78 | | 71 | | 70-130 | 9 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 90 | | 70-130 | 7 | | 20 |
| Ethyl ether | 90 | | 83 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 90 | | 83 | | 70-130 | 8 | | 20 |
| Ethyl-Tert-Butyl-Ether | 93 | | 85 | | 70-130 | 9 | | 20 |
| Tertiary-Amyl Methyl Ether | 96 | | 85 | | 70-130 | 12 | | 20 |
| 1,4-Dioxane | **147** | Q | 117 | | 70-130 | **23** | Q | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 96 | | 70-130 |
| Toluene-d8 | 100 | | 104 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 97 | | 70-130 |
| Dibromofluoromethane | 101 | | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 09-12,18-19 Batch: WG443041-1 WG443041-2 | | | | | | | | |
| Methylene chloride | 94 | | 90 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethane | 89 | | 86 | | 70-130 | 3 | | 20 |
| Chloroform | 91 | | 90 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 85 | | 85 | | 70-130 | 0 | | 20 |
| 1,2-Dichloropropane | 88 | | 89 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 88 | | 86 | | 70-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 93 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 90 | | 87 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 89 | | 87 | | 70-130 | 2 | | 20 |
| 1,2-Dichloroethane | 90 | | 84 | | 70-130 | 7 | | 20 |
| 1,1,1-Trichloroethane | 85 | | 84 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 88 | | 86 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 83 | | 79 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 79 | | 79 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 89 | | 86 | | 70-130 | 3 | | 20 |
| Bromoform | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 99 | | 96 | | 70-130 | 3 | | 20 |
| Benzene | 91 | | 89 | | 70-130 | 2 | | 20 |
| Toluene | 94 | | 91 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 94 | | 93 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 09-12,18-19 Batch: WG443041-1 WG443041-2 | | | | | | | | |
| Chloromethane | 86 | | 85 | | 70-130 | 1 | | 20 |
| Bromomethane | 83 | | 83 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 92 | | 92 | | 70-130 | 0 | | 20 |
| Chloroethane | 93 | | 88 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 90 | | 87 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 86 | | 84 | | 70-130 | 2 | | 20 |
| Trichloroethene | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 81 | | 80 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 94 | | 93 | | 70-130 | 1 | | 20 |
| o-Xylene | 94 | | 92 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 92 | | 90 | | 70-130 | 2 | | 20 |
| Dibromomethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 100 | | 95 | | 70-130 | 5 | | 20 |
| Styrene | 92 | | 90 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 71 | | 70 | | 70-130 | 1 | | 20 |
| Acetone | 90 | | 84 | | 70-130 | 7 | | 20 |
| Carbon disulfide | 85 | | 85 | | 70-130 | 0 | | 20 |
| 2-Butanone | 89 | | 89 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 09-12,18-19 Batch: WG443041-1 WG443041-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 80 | | 70-130 | 11 | | 20 |
| 2-Hexanone | 88 | | 80 | | 70-130 | 10 | | 20 |
| Bromochloromethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 86 | | 87 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 87 | | 89 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,3-Dichloropropane | 95 | | 92 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 86 | | 88 | | 70-130 | 2 | | 20 |
| Bromobenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 94 | | 93 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Hexachlorobutadiene | 90 | | 90 | | 70-130 | 0 | | 20 |
| Isopropylbenzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 102 | | 99 | | 70-130 | 3 | | 20 |
| Naphthalene | 92 | | 86 | | 70-130 | 7 | | 20 |
| n-Propylbenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 87 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 09-12,18-19 Batch: WG443041-1 WG443041-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 89 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 95 | | 90 | | 70-130 | 5 | | 20 |
| 1,2,4-Trimethylbenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Ethyl ether | 88 | | 86 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 85 | | 84 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 81 | | 77 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 88 | | 83 | | 70-130 | 6 | | 20 |
| 1,4-Dioxane | 106 | | 96 | | 70-130 | 10 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 97 | | 70-130 |
| Toluene-d8 | 102 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 97 | | 70-130 |
| Dibromofluoromethane | 101 | | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 13,15 Batch: WG443050-1 WG443050-2 | | | | | | | | |
| Methylene chloride | 94 | | 87 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethane | 98 | | 87 | | 70-130 | 12 | | 20 |
| Chloroform | 98 | | 91 | | 70-130 | 7 | | 20 |
| Carbon tetrachloride | 130 | | 112 | | 70-130 | 15 | | 20 |
| 1,2-Dichloropropane | 92 | | 85 | | 70-130 | 8 | | 20 |
| Dibromochloromethane | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 101 | | 87 | | 70-130 | 15 | | 20 |
| Chlorobenzene | 95 | | 81 | | 70-130 | 16 | | 20 |
| Trichlorofluoromethane | 80 | | 70 | | 70-130 | 13 | | 20 |
| 1,2-Dichloroethane | 89 | | 86 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 109 | | 96 | | 70-130 | 13 | | 20 |
| Bromodichloromethane | 99 | | 90 | | 70-130 | 10 | | 20 |
| trans-1,3-Dichloropropene | 96 | | 90 | | 70-130 | 6 | | 20 |
| cis-1,3-Dichloropropene | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 98 | | 88 | | 70-130 | 11 | | 20 |
| Bromoform | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 78 | | 85 | | 70-130 | 9 | | 20 |
| Benzene | 100 | | 90 | | 70-130 | 11 | | 20 |
| Toluene | 95 | | 82 | | 70-130 | 15 | | 20 |
| Ethylbenzene | 101 | | 86 | | 70-130 | 16 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 13,15 Batch: WG443050-1 WG443050-2 | | | | | | | | |
| Chloromethane | 99 | | 87 | | 70-130 | 13 | | 20 |
| Bromomethane | 71 | | **67** | Q | 70-130 | 6 | | 20 |
| Vinyl chloride | 80 | | 71 | | 70-130 | 12 | | 20 |
| Chloroethane | 83 | | 70 | | 70-130 | 17 | | 20 |
| 1,1-Dichloroethene | 81 | | 72 | | 70-130 | 12 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 80 | | 70-130 | 16 | | 20 |
| Trichloroethene | 90 | | 80 | | 70-130 | 12 | | 20 |
| 1,2-Dichlorobenzene | 83 | | 80 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 85 | | 83 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 82 | | 83 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 96 | | 82 | | 70-130 | 16 | | 20 |
| o-Xylene | 98 | | 84 | | 70-130 | 15 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 90 | | 70-130 | 13 | | 20 |
| Dibromomethane | 94 | | 91 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 78 | | 85 | | 70-130 | 9 | | 20 |
| Styrene | 91 | | 82 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 82 | | 74 | | 70-130 | 10 | | 20 |
| Acetone | 83 | | 93 | | 70-130 | 11 | | 20 |
| Carbon disulfide | 77 | | **64** | Q | 70-130 | 18 | | 20 |
| 2-Butanone | 84 | | 94 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 13,15 Batch: WG443050-1 WG443050-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 80 | | 84 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 82 | | 84 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 76 | | 82 | | 70-130 | 8 | | 20 |
| 2,2-Dichloropropane | 120 | | 105 | | 70-130 | 13 | | 20 |
| 1,2-Dibromoethane | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 99 | | 94 | | 70-130 | 5 | | 20 |
| 1,1,1,2-Tetrachloroethane | 109 | | 96 | | 70-130 | 13 | | 20 |
| Bromobenzene | 89 | | 84 | | 70-130 | 6 | | 20 |
| n-Butylbenzene | 94 | | 84 | | 70-130 | 11 | | 20 |
| sec-Butylbenzene | 94 | | 86 | | 70-130 | 9 | | 20 |
| tert-Butylbenzene | 94 | | 86 | | 70-130 | 9 | | 20 |
| o-Chlorotoluene | 74 | | 70 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 95 | | 88 | | 70-130 | 8 | | 20 |
| 1,2-Dibromo-3-chloropropane | 85 | | 110 | | 70-130 | **26** | Q | 20 |
| Hexachlorobutadiene | 98 | | 84 | | 70-130 | 15 | | 20 |
| Isopropylbenzene | 101 | | 88 | | 70-130 | 14 | | 20 |
| p-Isopropyltoluene | 96 | | 88 | | 70-130 | 9 | | 20 |
| Naphthalene | 73 | | 76 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 93 | | 85 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichlorobenzene | 76 | | 80 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 13,15 Batch: WG443050-1 WG443050-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 78 | | 74 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 90 | | 82 | | 70-130 | 9 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 86 | | 70-130 | 7 | | 20 |
| Ethyl ether | 72 | | 71 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 82 | | 78 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 86 | | 85 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 91 | | 80 | | 70-130 | 13 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 90 | | 95 | | 70-130 |
| Toluene-d8 | 104 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 105 | | 70-130 |
| Dibromofluoromethane | 94 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14,16 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| Methylene chloride | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 98 | | 93 | | 70-130 | 5 | | 20 |
| Chloroform | 100 | | 95 | | 70-130 | 5 | | 20 |
| Carbon tetrachloride | 120 | | 112 | | 70-130 | 7 | | 20 |
| 1,2-Dichloropropane | 89 | | 85 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 97 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 93 | | 90 | | 70-130 | 3 | | 20 |
| Chlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 82 | | 74 | | 70-130 | 10 | | 20 |
| 1,2-Dichloroethane | 93 | | 89 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 97 | | 92 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 100 | | 93 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 95 | | 94 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 98 | | 89 | | 70-130 | 10 | | 20 |
| Bromoform | 117 | | 114 | | 70-130 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 89 | | 94 | | 70-130 | 5 | | 20 |
| Benzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| Toluene | 89 | | 85 | | 70-130 | 5 | | 20 |
| Ethylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14,16 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| Chloromethane | 95 | | 88 | | 70-130 | 8 | | 20 |
| Bromomethane | 70 | | 70 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 75 | | 72 | | 70-130 | 4 | | 20 |
| Chloroethane | 72 | | 70 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 80 | | 71 | | 70-130 | 12 | | 20 |
| trans-1,2-Dichloroethene | 91 | | 83 | | 70-130 | 9 | | 20 |
| Trichloroethene | 92 | | 87 | | 70-130 | 6 | | 20 |
| 1,2-Dichlorobenzene | 86 | | 88 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 93 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 87 | | 82 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 92 | | 89 | | 70-130 | 3 | | 20 |
| o-Xylene | 97 | | 93 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 92 | | 70-130 | 5 | | 20 |
| Dibromomethane | 97 | | 97 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 86 | | 92 | | 70-130 | 7 | | 20 |
| Styrene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Dichlorodifluoromethane | 84 | | 76 | | 70-130 | 10 | | 20 |
| Acetone | 85 | | 93 | | 70-130 | 9 | | 20 |
| Carbon disulfide | 73 | | 70 | | 70-130 | 4 | | 20 |
| 2-Butanone | 84 | | 84 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14,16 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 92 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 88 | | 91 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 95 | | 90 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 83 | | 82 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 113 | | 102 | | 70-130 | 10 | | 20 |
| 1,2-Dibromoethane | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 93 | | 70-130 | 5 | | 20 |
| Bromobenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 84 | | 86 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 74 | | 74 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 97 | | 95 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 107 | | 112 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | 87 | | 81 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 90 | | 92 | | 70-130 | 2 | | 20 |
| Naphthalene | 73 | | 79 | | 70-130 | 8 | | 20 |
| n-Propylbenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 74 | | 80 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 14,16 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 78 | | 80 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 70 | | 71 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 87 | | 89 | | 70-130 | 2 | | 20 |
| Ethyl ether | 77 | | 75 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 84 | | 81 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 90 | | 86 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 93 | | 89 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 103 | | 88 | | 70-130 | 16 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 92 | | 70-130 |
| Toluene-d8 | 102 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 103 | | 70-130 |
| Dibromofluoromethane | 100 | | 104 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018064-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018064
**Report Date:** 11/17/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018064-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-15A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-15B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-16A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-16B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-17A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-17B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-18A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-18B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-19A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-19B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018064-20A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018064-20B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018064 |
| **Project Number:** | 0114119 | **Report Date:** | 11/17/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018064 |
| **Project Number:** | 0114119 | **Report Date:** | 11/17/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018064
**Project Number:** 0114119 **Report Date:** 11/17/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 11/11/10

ALPHA Job #: L1018064

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial_No:11171017:36

## Client Information

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYthcon
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON FLATTERY
ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.
Date Due: 11/15/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration ____
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 8064.1 | APS-107-30.0-20101110-01 | 11/10/10 | 16:27 | GW | LJM | 2 | hold | |
| 2 | EB-06-20101110-01 | 11/10/10 | 16:36 | ↓ | ↓ | 2 | ~~hold~~ LJM | |
| 3 | APS-106-20.0-20101111-01 | 11/11/10 | 0744 | | | 2 | hold | |
| 4 | APS-107-40.0-20101111-01 | 11/11/10 | 0800 | | | 2 | | |
| 5 | APS-107-45.0-20101111-01 | 11/11/10 | 0841 | | | 2 | | |
| 6 | APS-107-50.0-20101111-01 | 11/11/10 | 0935 | | | 2 | | |
| 7 | APS-106-25.0-20101111-01 | 11/11/10 | 0844 | | | 2 | hold | |
| 8 | APS-106-30.0-20101111-01 | 11/11/10 | 0924 | | | 2 | hold | |
| 9 | APS-106-35.0-20101111-01 | 11/11/10 | 1016 | | | 2 | | |
| 10 | APS-106-41.0-20101111-01 | 11/11/10 | 1116 | ↓ | ↓ | 2 | | |

Container Type: VIAL
Preservative: HCl

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| P. Gillett | 11/11/10 16:10 | P. Gillett | 11/11/10 16:10 |
| P. Gillett | 11/11/10 16:50 | [illegible] | 11/11/10 1650 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 11/11/10

ALPHA Job #: L1018064

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial_No:11171017:36

## Client Information

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

❑ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

## Turn-Around Time

❑ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr.

Date Due: 11/15/10 Time:

## Report Information - Data Deliverables

❑ FAX ❑ EMAIL

❑ ADEx ❑ Add'l Deliverables

## Billing Information

❑ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

❑ Yes ❑ No Are MCP Analytical Methods Required?

❑ Yes ❑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

❑ Yes ❑ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
❑ Done
❑ Not needed
❑ Lab to do

*Preservation*
❑ Lab to do

(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8064.11 | APS-107-55.0-20101111-01 | 11/11/10 | 1026 | GW | LSM | 2 | | |
| 12 | APS-107-60.0-20101111-01 | 11/11/10 | 1105 | ↓ | ↓ | 2 | | |
| 13 | APS-106-46.0-20101111-01 | 11/11/10 | 1206 | | | 2 | | |
| 14 | APS-107-81.7-20101111-01 | 11/11/10 | 1231 | | | 2 | | |
| 15 | APS-106-51.3-20101111-01 | 11/11/10 | 1316 | | | 2 | | |
| 16 | APS-107-89.8-20101111-01 | 11/11/10 | 1345 | | | 2 | | |
| 17 | EB-09-20101111-01 | 11/11/10 | 1430 | | | 2 | | |
| 18 | APS-106-70.3-20101111-01 | 11/11/10 | 1439 | | | 2 | | |
| 19 | APS-106-76.6-20101111-01 | 11/11/10 | 1535 | | | 2 | | |
| 20 | APS-109-30.0-20101111-01 | 11/11/10 | 1557 | ↓ | ↓ | 2 | hold | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | Vial | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| P. Gilbert | 11/11/10 16:10 | P. Gilbert | 11/11/10 16:10 |
| | 11/11/10 16:50 | [illegible] | 11/11/10 16:50 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 12-NOV-2010  Time: 04:39

Lab File ID: 1112A02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79247 | .5845 | .1 | 26 | 20 | F |
| chloromethane | .84182 | .76281 | .1 | 9 | 20 | |
| vinyl chloride | 1.3738 | .98747 | .1 | 28 | 20 | F |
| bromomethane | 1.1065 | .91463 | .1 | 17 | 20 | |
| chloroethane | .89365 | .67597 | .1 | 24 | 20 | F |
| trichlorofluoromethane | 2.9031 | 2.4044 | .1 | 17 | 20 | |
| ethyl ether | .56072 | .50685 | .05 | 10 | 20 | |
| 1,1,-dichloroethene | 1.5853 | 1.317 | .1 | 17 | 20 | |
| carbon disulfide | 3.7087 | 2.8160 | .05 | 24 | 20 | F |
| methylene chloride | .63013 | .62304 | .05 | 1 | 20 | |
| acetone | 100 | 102 | .1 | -2 | 20 | |
| trans-1,2-dichloroethene | .70888 | .65711 | .1 | 7 | 20 | |
| methyl tert butyl ether | 1.2212 | 1.1376 | .1 | 7 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4203 | 1.3201 | .05 | 7 | 20 | |
| Diisopropyl Ether | 2.0664 | 1.8701 | .05 | 10 | 20 | |
| 1,1-dichloroethane | 1.1803 | 1.1174 | .2 | 5 | 20 | |
| cis-1,2-dichloroethene | .74589 | .70476 | .1 | 6 | 20 | |
| 2,2-dichloropropane | .79776 | .86766 | .05 | -9 | 20 | |
| bromochloromethane | .34758 | .34883 | .05 | 0 | 20 | |
| chloroform | 1.1767 | 1.1843 | .2 | -1 | 20 | |
| carbontetrachloride | .77298 | .93906 | .1 | -21 | 20 | F |
| tetrahydrofuran | .13527 | .13721 | .05 | -1 | 20 | |
| 1,1,1-trichloroethane | 1.0862 | 1.0325 | .1 | 5 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.2129 | 1.1710 | .05 | 3 | 20 | |
| 1,1-dichloropropene | .99168 | .9619 | .05 | 3 | 20 | |
| 2-butanone | .15937 | .17715 | .1 | -11 | 20 | |
| benzene | 2.7825 | 2.7996 | .5 | -1 | 20 | |
| 1,2-dichloroethane | .72552 | .73889 | .1 | -2 | 20 | |
| trichloroethene | .79783 | .73153 | .2 | 8 | 20 | |
| dibromomethane | .34162 | .35266 | .05 | -3 | 20 | |
| 1,2-dichloropropane | .69079 | .63469 | .1 | 8 | 20 | |
| bromodichloromethane | .87051 | .90186 | .2 | -4 | 20 | |
| 1,4-dioxane | .00212 | .00312 | .05 | -47 | 20 | F |
| cis-1,3-dichloropropene | .87667 | .8334 | .2 | 5 | 20 | |
| toluene | 2.2152 | 2.0241 | .4 | 9 | 20 | |
| tetrachloroethene | 1.0165 | .99926 | .2 | 2 | 20 | |
| 4-methyl-2-pentanone | .10936 | .11302 | .1 | -3 | 20 | |
| trans-1,3-dichloropropene | .7843 | .80341 | .1 | -2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 12-NOV-2010  Time: 04:39

Lab File ID: 1112A02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .43307 | .46767 | .1 | -8 | 20 | |
| chlorodibromomethane | .62522 | .63726 | .1 | -2 | 20 | |
| 1,3-dichloropropane | .88473 | .915 | .05 | -3 | 20 | |
| 1,2-dibromoethane | .49454 | .52587 | .1 | -6 | 20 | |
| 2-hexanone | .23096 | .22425 | .1 | 3 | 20 | |
| chlorobenzene | 2.3979 | 2.1681 | .5 | 10 | 20 | |
| ethyl benzene | 4.1020 | 3.9560 | .1 | 4 | 20 | |
| 1,1,1,2-tetrachloroethane | .7304 | .75829 | .05 | -4 | 20 | |
| p/m xylene | 1.7387 | 1.6659 | .1 | 4 | 20 | |
| o xylene | 1.6122 | 1.6403 | .3 | -2 | 20 | |
| styrene | 2.7207 | 2.6700 | .3 | 2 | 20 | |
| bromoform | .47714 | .62958 | .1 | -32 | 20 | F |
| isopropylbenzene | 4.2038 | 4.2115 | .1 | 0 | 20 | |
| bromobenzene | 1.5890 | 1.5731 | .05 | 1 | 20 | |
| n-propylbenzene | 7.2092 | 7.8081 | .05 | -8 | 20 | |
| 1,1,2,2,-tetrachloroethane | .96526 | 1.0372 | .3 | -7 | 20 | |
| 2-chlorotoluene | 5.2746 | 4.2479 | .05 | 19 | 20 | |
| 1,2,3-trichloropropane | .7773 | .78813 | .05 | -1 | 20 | |
| 1,3,5-trimethybenzene | 6.2997 | 4.8996 | .05 | 22 | 20 | F |
| 4-chorotoluene | 4.3249 | 4.3171 | .05 | 0 | 20 | |
| tert-butylbenzene | 4.5038 | 4.6621 | .05 | -4 | 20 | |
| 1,2,4-trimethylbenzene | 4.8131 | 4.6728 | .05 | 3 | 20 | |
| sec-butylbenzene | 6.2802 | 6.6586 | .05 | -6 | 20 | |
| p-isopropyltoluene | 5.1272 | 5.0620 | .05 | 1 | 20 | |
| 1,3-dichlorobenzene | 3.5415 | 3.3396 | .6 | 6 | 20 | |
| 1,4-dichlorobenzene | 3.3597 | 3.3119 | .5 | 1 | 20 | |
| n-butylbenzene | 3.6821 | 3.5242 | .05 | 4 | 20 | |
| 1,2-dichlorobenzene | 2.9394 | 2.7965 | .4 | 5 | 20 | |
| 1,2-dibromo-3-chloropropane | .0991 | .12427 | .05 | -25 | 20 | F |
| hexachlorobutadiene | .57048 | .52168 | .05 | 9 | 20 | |
| 1,2,4-trichlorobenzene | 1.1839 | 1.0577 | .2 | 11 | 20 | |
| naphthalene | 1.5721 | 1.3508 | .05 | 14 | 20 | |
| 1,2,3-trichlorobenzene | 1.0038 | .85188 | .05 | 15 | 20 | |
| dibromofluoromethane | .27504 | .27757 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .25531 | .2435 | .05 | 5 | 20 | |
| toluene-d8 | 1.1660 | 1.1658 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | .6928 | .68665 | .05 | 1 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Quimby.i  Calibration Date: 15-NOV-2010  Time: 05:36

Lab File ID: 1115A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .29829 | .1 | 29 | 20 | F |
| chloromethane | .62163 | .53655 | .1 | 14 | 20 | |
| vinyl chloride | .4285 | .39353 | .1 | 8 | 20 | |
| bromomethane | .32572 | .27025 | .1 | 17 | 20 | |
| chloroethane | .35035 | .32598 | .1 | 7 | 20 | |
| trichlorofluoromethane | .6241 | .5571 | .1 | 11 | 20 | |
| ethyl ether | .13811 | .12103 | .05 | 12 | 20 | |
| acetone | 100 | 89.859 | .1 | 10 | 20 | |
| 1,1,-dichloroethene | .31495 | .28229 | .1 | 10 | 20 | |
| methylene chloride | .34246 | .32225 | .1 | 6 | 20 | |
| carbon disulfide | .90993 | .7708 | .1 | 15 | 20 | |
| methyl tert butyl ether | .48005 | .38936 | .1 | 19 | 20 | |
| trans-1,2-dichloroethene | .36264 | .31182 | .1 | 14 | 20 | |
| Diisopropyl Ether | 1.1682 | .9913 | .05 | 15 | 20 | |
| 1,1-dichloroethane | .70419 | .62607 | .2 | 11 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .58917 | .05 | 19 | 20 | |
| 2-butanone | .06714 | .06006 | .1 | 11 | 20 | F |
| 2,2-dichloropropane | .34238 | .29761 | .05 | 13 | 20 | |
| cis-1,2-dichloroethene | .37932 | .3506 | .1 | 8 | 20 | |
| chloroform | .61594 | .56151 | .2 | 9 | 20 | |
| bromochloromethane | .12887 | .11654 | .05 | 10 | 20 | |
| tetrahydrofuran | .04454 | .03855 | .05 | 13 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .41725 | .1 | 15 | 20 | |
| 1,1-dichloropropene | .52258 | .46311 | .05 | 11 | 20 | |
| carbontetrachloride | .35402 | .29942 | .1 | 15 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .4098 | .05 | 12 | 20 | |
| 1,2-dichloroethane | .39579 | .35468 | .1 | 10 | 20 | |
| benzene | 1.5397 | 1.4045 | .5 | 9 | 20 | |
| trichloroethene | .37211 | .32971 | .2 | 11 | 20 | |
| 1,2-dichloropropane | .35603 | .31442 | .1 | 12 | 20 | |
| bromodichloromethane | .35384 | .31106 | .2 | 12 | 20 | |
| 1,4-dioxane | .00109 | .00115 | .05 | -6 | 20 | F |
| dibromomethane | .12703 | .12502 | .05 | 2 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04301 | .1 | 11 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .32784 | .2 | 21 | 20 | F |
| toluene | 1.2794 | 1.1986 | .4 | 6 | 20 | |
| trans-1,3-dichloropropene | .38217 | .31553 | .1 | 17 | 20 | |
| 1,1,2-trichloroethane | .21745 | .20934 | .1 | 4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Quimby.i  Calibration Date: 15-NOV-2010  Time: 05:36

Lab File ID: 1115A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 2-hexanone | .12616 | .1107 | .1 | 12 | 20 |
| 1,3-dichloropropane | .48008 | .45669 | .05 | 5 | 20 |
| tetrachloroethene | .50656 | .47751 | .2 | 6 | 20 |
| chlorodibromomethane | .22898 | .20076 | .1 | 12 | 20 |
| 1,2-dibromoethane | .21845 | .21224 | .1 | 3 | 20 |
| chlorobenzene | 1.3784 | 1.2346 | .5 | 10 | 20 |
| 1,1,1,2-tetrachloroethane | .33964 | .29046 | .05 | 14 | 20 |
| ethyl benzene | 2.6402 | 2.4855 | .1 | 6 | 20 |
| p/m xylene | 1.0415 | .98109 | .1 | 6 | 20 |
| o xylene | .99264 | .9355 | .3 | 6 | 20 |
| styrene | 1.5901 | 1.4636 | .31 | 8 | 20 |
| isopropylbenzene | 2.7063 | 2.5088 | .1 | 7 | 20 |
| bromoform | .16937 | .16257 | .1 | 4 | 20 |
| 1,1,2,2,-tetrachloroethane | .4575 | .45336 | .3 | 1 | 20 |
| 1,2,3-trichloropropane | .359 | .35982 | .05 | 0 | 20 |
| n-propylbenzene | 5.3817 | 5.2949 | .05 | 2 | 20 |
| bromobenzene | .8701 | .83874 | .05 | 4 | 20 |
| 1,3,5-trimethybenzene | 3.7262 | 3.5242 | .05 | 5 | 20 |
| 2-chlorotoluene | 3.6146 | 3.4059 | .05 | 6 | 20 |
| 4-chorotoluene | 3.3404 | 3.1403 | .05 | 6 | 20 |
| tert-butylbenzene | 3.0713 | 2.9438 | .05 | 4 | 20 |
| 1,2,4-trimethylbenzene | 3.7510 | 3.6211 | .05 | 3 | 20 |
| sec-butylbenzene | 4.6047 | 4.4762 | .05 | 3 | 20 |
| p-isopropyltoluene | 3.5701 | 3.6421 | .05 | -2 | 20 |
| 1,3-dichlorobenzene | 1.8745 | 1.7466 | .6 | 7 | 20 |
| 1,4-dichlorobenzene | 1.7904 | 1.7566 | .5 | 2 | 20 |
| n-butylbenzene | 4.0323 | 3.8537 | .05 | 4 | 20 |
| 1,2-dichlorobenzene | 1.5779 | 1.5044 | .4 | 5 | 20 |
| 1,2-dibromo-3-chloropropane | 100 | 100 | .05 | 0 | 20 |
| 1,2,4-trichlorobenzene | .80062 | .71505 | .2 | 11 | 20 |
| hexachlorobutadiene | .39925 | .35717 | .05 | 11 | 20 |
| naphthalene | 1.1650 | 1.0714 | .05 | 8 | 20 |
| 1,2,3-trichlorobenzene | .59583 | .50598 | .05 | 15 | 20 |
| dibromofluoromethane | .2204 | .22152 | .05 | -1 | 20 |
| 1,2-dichloroethane-d4 | .22618 | .22508 | .05 | 0 | 20 |
| toluene-d8 | 1.2994 | 1.3295 | .05 | -2 | 20 |
| 4-bromofluorobenzene | .89239 | .86888 | .05 | 3 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:30

Lab File ID: 1115N01  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 12:16  20:20

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79359 | .65306 | .1 | 18 | 20 | |
| chloromethane | .76165 | .75483 | .1 | 1 | 20 | |
| vinyl chloride | 1.2937 | 1.0348 | .1 | 20 | 20 | F |
| bromomethane | 1.0628 | .7583 | .1 | 29 | 20 | F |
| chloroethane | 100 | 82.816 | .1 | 17 | 20 | |
| trichlorofluoromethane | 2.8637 | 2.295 | .1 | 20 | 20 | |
| ethyl ether | .6402 | .46261 | .05 | 28 | 20 | F |
| 1,1,-dichloroethene | 1.5646 | 1.2624 | .1 | 19 | 20 | |
| carbon disulfide | 3.7184 | 2.8733 | .1 | 23 | 20 | F |
| freon-113 | 1.6735 | 1.5172 | .1 | 9 | 20 | |
| methylene chloride | .7102 | .66531 | .1 | 6 | 20 | |
| acetone | .10595 | .08797 | .1 | 17 | 20 | |
| trans-1,2-dichloroethene | .72006 | .68071 | .1 | 5 | 20 | |
| methyl tert butyl ether | 1.3599 | 1.1132 | .1 | 18 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.5976 | 1.3730 | .05 | 14 | 20 | |
| Diisopropyl Ether | 2.2938 | 1.8721 | .01 | 18 | 20 | |
| 1,1-dichloroethane | 1.2337 | 1.2036 | .2 | 2 | 20 | |
| cis-1,2-dichloroethene | .78109 | .79727 | .1 | -2 | 20 | |
| 2,2-dichloropropane | .76922 | .92491 | .05 | -20 | 20 | F |
| 2-butanone | .17915 | .14988 | .1 | 16 | 20 | |
| bromochloromethane | .35836 | .35299 | .05 | 1 | 20 | |
| chloroform | 1.2656 | 1.2379 | .2 | 2 | 20 | |
| carbontetrachloride | .72871 | .94748 | .1 | -30 | 20 | F |
| tetrahydrofuran | .15004 | .11436 | .05 | 24 | 20 | F |
| 1,1,1-trichloroethane | 1.0044 | 1.0912 | .1 | -9 | 20 | |
| 1,1-dichloropropene | .98348 | .96708 | .05 | 2 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.3137 | 1.2243 | .05 | 7 | 20 | |
| benzene | 2.9169 | 2.9297 | .5 | 0 | 20 | |
| 1,2-dichloroethane | .79489 | .70641 | .1 | 11 | 20 | |
| trichloroethene | .83684 | .74883 | .2 | 11 | 20 | |
| dibromomethane | .37699 | .35388 | .05 | 6 | 20 | |
| 1,2-dichloropropane | .71262 | .65588 | .1 | 8 | 20 | |
| bromodichloromethane | .8581 | .84646 | .2 | 1 | 20 | |
| 1,4-dioxane | .00269 | .00248 | .05 | 8 | 20 | F |
| cis-1,3-dichloropropene | .91649 | .89177 | .2 | 3 | 20 | |
| toluene | 2.3166 | 2.2093 | .4 | 5 | 20 | |
| tetrachloroethene | .95172 | .96583 | .2 | -1 | 20 | |
| 4-methyl-2-pentanone | .12775 | .1025 | .1 | 20 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:30

Lab File ID: 1115N01  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 12:16  20:20

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| trans-1,3-dichloropropene | .86603 | .82983 | .1 | 4 | 20 | |
| 1,1,2-trichloroethane | .47561 | .46517 | .1 | 2 | 20 | |
| chlorodibromomethane | .67582 | .67881 | .1 | 0 | 20 | |
| 1,3-dichloropropane | .97397 | .96423 | .05 | 1 | 20 | |
| 1,2-dibromoethane | .5618 | .53064 | .1 | 6 | 20 | |
| 2-hexanone | .26983 | .22246 | .1 | 18 | 20 | |
| chlorobenzene | 2.5802 | 2.4483 | .5 | 5 | 20 | |
| ethyl benzene | 4.1945 | 4.2501 | .1 | -1 | 20 | |
| 1,1,1,2-tetrachloroethane | .77692 | .84525 | .05 | -9 | 20 | |
| p/m xylene | 1.8996 | 1.8239 | .1 | 4 | 20 | |
| o xylene | 1.8226 | 1.7923 | .3 | 2 | 20 | |
| styrene | 3.1792 | 2.9001 | .3 | 9 | 20 | |
| bromoform | 100 | 100 | .1 | 0 | 20 | |
| isopropylbenzene | 4.1147 | 4.1609 | .1 | -1 | 20 | |
| bromobenzene | 1.8445 | 1.6359 | .05 | 11 | 20 | |
| n-propylbenzene | 7.9441 | 7.3640 | .05 | 7 | 20 | |
| 1,1,2,2,-tetrachloroethane | 1.1920 | .93287 | .3 | 22 | 20 | F |
| 2-chlorotoluene | 5.9328 | 4.4067 | .05 | 26 | 20 | F |
| 1,2,3-trichloropropane | .9266 | .72259 | .05 | 22 | 20 | F |
| 1,3,5-trimethybenzene | 5.8898 | 5.3215 | .05 | 10 | 20 | |
| 4-chorotoluene | 5.0503 | 4.7807 | .05 | 5 | 20 | |
| tert-butylbenzene | 4.7455 | 4.4404 | .05 | 6 | 20 | |
| 1,2,4-trimethylbenzene | 6.1466 | 5.6247 | .05 | 8 | 20 | |
| sec-butylbenzene | 6.5039 | 6.1465 | .01 | 5 | 20 | |
| p-isopropyltoluene | 5.6045 | 5.3673 | .05 | 4 | 20 | |
| 1,3-dichlorobenzene | 3.9108 | 3.3236 | .6 | 15 | 20 | |
| 1,4-dichlorobenzene | 3.6851 | 3.4098 | .5 | 7 | 20 | |
| n-butylbenzene | 4.2635 | 3.9936 | .05 | 6 | 20 | |
| 1,2-dichlorobenzene | 3.3959 | 2.8329 | .4 | 17 | 20 | |
| 1,2-dibromo-3-chloropropane | .11129 | .09449 | .05 | 15 | 20 | |
| hexachlorobutadiene | .54192 | .52857 | .05 | 2 | 20 | |
| 1,2,4-trichlorobenzene | 1.6085 | 1.2627 | .2 | 21 | 20 | F |
| naphthalene | 2.6379 | 1.9161 | .05 | 27 | 20 | F |
| 1,2,3-trichlorobenzene | 1.1838 | .9009 | .05 | 24 | 20 | F |
| dibromofluoromethane | .27773 | .26157 | .05 | 6 | 20 | |
| 1,2-dichloroethane-d4 | .24804 | .22434 | .05 | 10 | 20 | |
| toluene-d8 | 1.1612 | 1.2118 | .01 | -4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:30

Lab File ID: 1115N01  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 12:16  20:20

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 4-bromofluorobenzene | .6927 | .71676 | .05 | -3 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:46

Lab File ID: 1115N02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79247 | .66938 | .1 | 16 | 20 | |
| chloromethane | .84182 | .8001 | .1 | 5 | 20 | |
| vinyl chloride | 1.3738 | 1.0279 | .1 | 25 | 20 | F |
| bromomethane | 1.1065 | .7789 | .1 | 30 | 20 | F |
| chloroethane | .89365 | .63984 | .1 | 28 | 20 | F |
| trichlorofluoromethane | 2.9031 | 2.3692 | .1 | 18 | 20 | |
| ethyl ether | .56072 | .43341 | .05 | 23 | 20 | F |
| 1,1,-dichloroethene | 1.5853 | 1.2681 | .1 | 20 | 20 | F |
| carbon disulfide | 3.7087 | 2.6928 | .05 | 27 | 20 | F |
| methylene chloride | .63013 | .61574 | .05 | 2 | 20 | |
| acetone | 100 | 84.717 | .1 | 15 | 20 | |
| trans-1,2-dichloroethene | .70888 | .6442 | .1 | 9 | 20 | |
| methyl tert butyl ether | 1.2212 | 1.0632 | .1 | 13 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4203 | 1.2724 | .05 | 10 | 20 | |
| Diisopropyl Ether | 2.0664 | 1.7394 | .05 | 16 | 20 | |
| 1,1-dichloroethane | 1.1803 | 1.1557 | .2 | 2 | 20 | |
| cis-1,2-dichloroethene | .74589 | .72441 | .1 | 3 | 20 | |
| 2,2-dichloropropane | .79776 | .90432 | .05 | -13 | 20 | |
| bromochloromethane | .34758 | .33059 | .05 | 5 | 20 | |
| chloroform | 1.1767 | 1.1742 | .2 | 0 | 20 | |
| carbontetrachloride | .77298 | .92887 | .1 | -20 | 20 | F |
| tetrahydrofuran | .13527 | .11259 | .05 | 17 | 20 | |
| 1,1,1-trichloroethane | 1.0862 | 1.0489 | .1 | 3 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.2129 | 1.1312 | .05 | 7 | 20 | |
| 1,1-dichloropropene | .99168 | .96871 | .05 | 2 | 20 | |
| 2-butanone | .15937 | .13417 | .1 | 16 | 20 | |
| benzene | 2.7825 | 2.6832 | .5 | 4 | 20 | |
| 1,2-dichloroethane | .72552 | .67627 | .1 | 7 | 20 | |
| trichloroethene | .79783 | .73282 | .2 | 8 | 20 | |
| dibromomethane | .34162 | .33074 | .05 | 3 | 20 | |
| 1,2-dichloropropane | .69079 | .61484 | .1 | 11 | 20 | |
| bromodichloromethane | .87051 | .87043 | .2 | 0 | 20 | |
| 1,4-dioxane | .00212 | .00219 | .05 | -3 | 20 | F |
| cis-1,3-dichloropropene | .87667 | .85319 | .2 | 3 | 20 | |
| toluene | 2.2152 | 1.9632 | .4 | 11 | 20 | |
| tetrachloroethene | 1.0165 | .94564 | .2 | 7 | 20 | |
| 4-methyl-2-pentanone | .10936 | .09773 | .1 | 11 | 20 | |
| trans-1,3-dichloropropene | .7843 | .74785 | .1 | 5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:46

Lab File ID: 1115N02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .43307 | .43262 | .1 | 0 | 20 | |
| chlorodibromomethane | .62522 | .62344 | .1 | 0 | 20 | |
| 1,3-dichloropropane | .88473 | .8532 | .05 | 4 | 20 | |
| 1,2-dibromoethane | .49454 | .48594 | .1 | 2 | 20 | |
| 2-hexanone | .23096 | .20318 | .1 | 12 | 20 | |
| chlorobenzene | 2.3979 | 2.1218 | .5 | 12 | 20 | |
| ethyl benzene | 4.1020 | 3.7887 | .1 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .7304 | .71978 | .05 | 1 | 20 | |
| p/m xylene | 1.7387 | 1.5996 | .1 | 8 | 20 | |
| o xylene | 1.6122 | 1.5602 | .3 | 3 | 20 | |
| styrene | 2.7207 | 2.5475 | .3 | 6 | 20 | |
| bromoform | .47714 | .5606 | .1 | -17 | 20 | |
| isopropylbenzene | 4.2038 | 3.9001 | .1 | 7 | 20 | |
| bromobenzene | 1.5890 | 1.4435 | .05 | 9 | 20 | |
| n-propylbenzene | 7.2092 | 6.8195 | .05 | 5 | 20 | |
| 1,1,2,2,-tetrachloroethane | .96526 | .86052 | .3 | 11 | 20 | |
| 2-chlorotoluene | 5.2746 | 3.8999 | .05 | 26 | 20 | F |
| 1,2,3-trichloropropane | .7773 | .66704 | .05 | 14 | 20 | |
| 1,3,5-trimethybenzene | 6.2997 | 4.3945 | .05 | 30 | 20 | F |
| 4-chorotoluene | 4.3249 | 4.1877 | .05 | 3 | 20 | |
| tert-butylbenzene | 4.5038 | 4.1203 | .05 | 9 | 20 | |
| 1,2,4-trimethylbenzene | 4.8131 | 4.1965 | .05 | 13 | 20 | |
| sec-butylbenzene | 6.2802 | 5.7958 | .05 | 8 | 20 | |
| p-isopropyltoluene | 5.1272 | 4.6283 | .05 | 10 | 20 | |
| 1,3-dichlorobenzene | 3.5415 | 2.9983 | .6 | 15 | 20 | |
| 1,4-dichlorobenzene | 3.3597 | 3.0052 | .5 | 11 | 20 | |
| n-butylbenzene | 3.6821 | 3.1045 | .05 | 16 | 20 | |
| 1,2-dichlorobenzene | 2.9394 | 2.5287 | .4 | 14 | 20 | |
| 1,2-dibromo-3-chloropropane | .0991 | .10633 | .05 | -7 | 20 | |
| hexachlorobutadiene | .57048 | .49711 | .05 | 13 | 20 | |
| 1,2,4-trichlorobenzene | 1.1839 | .92492 | .2 | 22 | 20 | F |
| naphthalene | 1.5721 | 1.1440 | .05 | 27 | 20 | F |
| 1,2,3-trichlorobenzene | 1.0038 | .7439 | .05 | 26 | 20 | F |
| dibromofluoromethane | .27504 | .2744 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .25531 | .24528 | .05 | 4 | 20 | |
| toluene-d8 | 1.1660 | 1.1865 | .05 | -2 | 20 | |
| 4-bromofluorobenzene | .6928 | .69978 | .05 | -1 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Quimby.i  Calibration Date: 12-NOV-2010  Time: 05:41

Lab File ID: 1112A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .30547 | .1 | 27 | 20 | F |
| chloromethane | .62163 | .52376 | .1 | 16 | 20 | |
| vinyl chloride | .4285 | .38921 | .1 | 9 | 20 | |
| bromomethane | .32572 | .26559 | .1 | 18 | 20 | |
| chloroethane | .35035 | .31105 | .1 | 11 | 20 | |
| trichlorofluoromethane | .6241 | .53143 | .1 | 15 | 20 | |
| ethyl ether | .13811 | .11842 | .05 | 14 | 20 | |
| acetone | 100 | 91.996 | .1 | 8 | 20 | |
| 1,1,-dichloroethene | .31495 | .28646 | .1 | 9 | 20 | |
| methylene chloride | .34246 | .31092 | .1 | 9 | 20 | |
| carbon disulfide | .90993 | .70298 | .1 | 23 | 20 | F |
| methyl tert butyl ether | .48005 | .38116 | .1 | 21 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .31595 | .1 | 13 | 20 | |
| Diisopropyl Ether | 1.1682 | .99378 | .05 | 15 | 20 | |
| 1,1-dichloroethane | .70419 | .62235 | .2 | 12 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .57934 | .05 | 20 | 20 | F |
| 2-butanone | .06714 | .05727 | .1 | 15 | 20 | F |
| 2,2-dichloropropane | .34238 | .27622 | .05 | 19 | 20 | |
| cis-1,2-dichloroethene | .37932 | .36195 | .1 | 5 | 20 | |
| chloroform | .61594 | .59011 | .2 | 4 | 20 | |
| bromochloromethane | .12887 | .11605 | .05 | 10 | 20 | |
| tetrahydrofuran | .04454 | .03638 | .05 | 18 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .39962 | .1 | 19 | 20 | |
| 1,1-dichloropropene | .52258 | .46853 | .05 | 10 | 20 | |
| carbontetrachloride | .35402 | .27995 | .1 | 21 | 20 | F |
| Tertiary-Amyl Methyl Ether | .46697 | .3914 | .05 | 16 | 20 | |
| 1,2-dichloroethane | .39579 | .35595 | .1 | 10 | 20 | |
| benzene | 1.5397 | 1.4451 | .5 | 6 | 20 | |
| trichloroethene | .37211 | .34625 | .2 | 7 | 20 | |
| 1,2-dichloropropane | .35603 | .32695 | .1 | 8 | 20 | |
| bromodichloromethane | .35384 | .30992 | .2 | 12 | 20 | |
| 1,4-dioxane | .00109 | .00108 | .05 | 1 | 20 | F |
| dibromomethane | .12703 | .12869 | .05 | -1 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03656 | .1 | 24 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .32058 | .2 | 23 | 20 | F |
| toluene | 1.2794 | 1.2669 | .4 | 1 | 20 | |
| trans-1,3-dichloropropene | .38217 | .30206 | .1 | 21 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .21324 | .1 | 2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018064

Instrument ID: Quimby.i  Calibration Date: 12-NOV-2010  Time: 05:41

Lab File ID: 1112A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10321 | .1 | 18 | 20 | |
| 1,3-dichloropropane | .48008 | .46971 | .05 | 2 | 20 | |
| tetrachloroethene | .50656 | .50922 | .2 | -1 | 20 | |
| chlorodibromomethane | .22898 | .19947 | .1 | 13 | 20 | |
| 1,2-dibromoethane | .21845 | .20611 | .1 | 6 | 20 | |
| chlorobenzene | 1.3784 | 1.3316 | .5 | 3 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .28928 | .05 | 15 | 20 | |
| ethyl benzene | 2.6402 | 2.7086 | .1 | -3 | 20 | |
| p/m xylene | 1.0415 | 1.0526 | .1 | -1 | 20 | |
| o xylene | .99264 | 1.0246 | .3 | -3 | 20 | |
| styrene | 1.5901 | 1.5873 | .31 | 0 | 20 | |
| isopropylbenzene | 2.7063 | 2.7492 | .1 | -2 | 20 | |
| bromoform | .16937 | .14739 | .1 | 13 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .46545 | .3 | -2 | 20 | |
| 1,2,3-trichloropropane | .359 | .36933 | .05 | -3 | 20 | |
| n-propylbenzene | 5.3817 | 5.7664 | .05 | -7 | 20 | |
| bromobenzene | .8701 | .88172 | .05 | -1 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.7469 | .05 | -1 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.6528 | .05 | -1 | 20 | |
| 4-chorotoluene | 3.3404 | 3.3897 | .05 | -1 | 20 | |
| tert-butylbenzene | 3.0713 | 3.1814 | .05 | -4 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.9240 | .05 | -5 | 20 | |
| sec-butylbenzene | 4.6047 | 4.9048 | .05 | -7 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.9887 | .05 | -12 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.9067 | .6 | -2 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.8523 | .5 | -3 | 20 | |
| n-butylbenzene | 4.0323 | 3.5979 | .05 | 11 | 20 | |
| 1,2-dichlorobenzene | 1.5779 | 1.5719 | .4 | 0 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 77.317 | .05 | 23 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .71799 | .2 | 10 | 20 | |
| hexachlorobutadiene | .39925 | .40893 | .05 | -2 | 20 | |
| naphthalene | 1.1650 | 1.0355 | .05 | 11 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .51696 | .05 | 13 | 20 | |
| dibromofluoromethane | .2204 | .20968 | .05 | 5 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21543 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.3432 | .05 | -3 | 20 | |
| 4-bromofluorobenzene | .89239 | .85283 | .05 | 4 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018171 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/16/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018171-01 | EB-09-20101111-01 | WAYLAND, MA | 11/11/10 16:11 |
| L1018171-02 | APS-109-35.8-20101111-01 | WAYLAND, MA | 11/11/10 16:44 |
| L1018171-03 | APS-108-30.0-20101111-01 | WAYLAND, MA | 11/11/10 17:14 |
| L1018171-04 | APS-108-35.0-20101112-01 | WAYLAND, MA | 11/12/10 08:23 |
| L1018171-05 | APS-109-54.0-20101112-01 | WAYLAND, MA | 11/12/10 09:20 |
| L1018171-06 | APS-109-58.8-20101112-01 | WAYLAND, MA | 11/12/10 10:06 |
| L1018171-07 | APS-108-45.0-20101112-01 | WAYLAND, MA | 11/12/10 10:32 |
| L1018171-08 | APS-108-40.0-20101112-01 | WAYLAND, MA | 11/12/10 09:47 |
| L1018171-09 | APS-109-63.8-20101112-01 | WAYLAND, MA | 11/12/10 10:56 |
| L1018171-10 | APS-109-68.6-20101112-01 | WAYLAND, MA | 11/12/10 11:49 |
| L1018171-11 | EB-11-20101112-01 | WAYLAND, MA | 11/12/10 12:10 |
| L1018171-12 | APS-108-62.0-20101112-01 | WAYLAND, MA | 11/12/10 11:38 |
| L1018171-13 | APS-108-65.8-20101112-01 | WAYLAND, MA | 11/12/10 12:34 |
| L1018171-14 | APS-111-20.0-20101112-01 | WAYLAND, MA | 11/12/10 13:01 |
| L1018171-15 | EB-10-20101112-01 | WAYLAND, MA | 11/12/10 14:20 |
| L1018171-16 | APS-111-25.0-20101112-01 | WAYLAND, MA | 11/12/10 13:34 |
| L1018171-17 | APS-110-30.0-20101112-01 | WAYLAND, MA | 11/12/10 14:12 |
| L1018171-18 | APS-110-35.9-20101112-01 | WAYLAND, MA | 11/12/10 14:54 |
| L1018171-19 | APS-111-30.0-20101112-01 | WAYLAND, MA | 11/12/10 14:23 |
| L1018171-20 | APS-111-35.0-20101112-01 | WAYLAND, MA | 11/12/10 14:57 |
| L1018171-21 | APS-111-40.0-20101112-01 | WAYLAND, MA | 11/12/10 15:26 |
| L1018171-22 | APS-110-41.0-20101112-01 | WAYLAND, MA | 11/12/10 15:42 |
| L1018171-23 | APS-111-45.0-20101112-01 | WAYLAND, MA | 11/12/10 16:04 |
| L1018171-24 | APS-110-45.8-20101112-01 | WAYLAND, MA | 11/12/10 16:24 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018171
**Project Number:** 0114119 **Report Date:** 11/16/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Volatile Organics

L1018171-07 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1018171-06, -07, -16, -17 and -20 through -24, did not meet the method required minimum response factor for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The initial calibrations, associated with L1018171-02, -03, -05, -08, -09, -10, -12, -13 and -14, did not meet the method required minimum response factor for 1,4-Dioxane; and utilized a quadratic fit for Acetone.

**Project Name:** RAYTHEON **Lab Number:** L1018171
**Project Number:** 0114119 **Report Date:** 11/16/10

**Case Narrative (continued)**

The continuing calibration standards, associated with L1018171-02, -03, -05 through -10, -12, -13, -14, -16, -17 and -20 through -24, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/16/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON
**Project Number:** 0114119
**Lab Number:** L1018171
**Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-02 | Date Collected: | 11/11/10 16:44 |
| Client ID: | APS-109-35.8-20101111-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 11:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 12 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 52 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-02 Date Collected: 11/11/10 16:44

Client ID: APS-109-35.8-20101111-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 3.0 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-02 | Date Collected: | 11/11/10 16:44 |
| Client ID: | APS-109-35.8-20101111-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-03 | Date Collected: | 11/11/10 17:14 |
| Client ID: | APS-108-30.0-20101111-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 11:32 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-03 Date Collected: 11/11/10 17:14

Client ID: APS-108-30.0-20101111-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 4.0 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-03 | Date Collected: | 11/11/10 17:14 |
| Client ID: | APS-108-30.0-20101111-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 111 | | 70-130 |
| 4-Bromofluorobenzene | 116 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-05 | Date Collected: | 11/12/10 09:20 |
| Client ID: | APS-109-54.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 12:04 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-05 Date Collected: 11/12/10 09:20

Client ID: APS-109-54.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.6 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-05 | Date Collected: | 11/12/10 09:20 |
| Client ID: | APS-109-54.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-06 | Date Collected: | 11/12/10 10:06 |
| Client ID: | APS-109-58.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 17:27 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-06 Date Collected: 11/12/10 10:06

Client ID: APS-109-58.8-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-06 | Date Collected: | 11/12/10 10:06 |
| Client ID: | APS-109-58.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-07 D | Date Collected: | 11/12/10 10:32 |
| Client ID: | APS-108-45.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 16:56 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 8.0 | -- | 4 |
| 1,1-Dichloroethane | ND | | ug/l | 4.0 | -- | 4 |
| Chloroform | ND | | ug/l | 4.0 | -- | 4 |
| Carbon tetrachloride | ND | | ug/l | 4.0 | -- | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | -- | 4 |
| Dibromochloromethane | ND | | ug/l | 4.0 | -- | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 4.0 | -- | 4 |
| Tetrachloroethene | ND | | ug/l | 4.0 | -- | 4 |
| Chlorobenzene | ND | | ug/l | 4.0 | -- | 4 |
| Trichlorofluoromethane | ND | | ug/l | 8.0 | -- | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 4.0 | -- | 4 |
| 1,1,1-Trichloroethane | 47 | | ug/l | 4.0 | -- | 4 |
| Bromodichloromethane | ND | | ug/l | 4.0 | -- | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | -- | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | -- | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 8.0 | -- | 4 |
| Bromoform | ND | | ug/l | 8.0 | -- | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 4.0 | -- | 4 |
| Benzene | ND | | ug/l | 4.0 | -- | 4 |
| Toluene | ND | | ug/l | 4.0 | -- | 4 |
| Ethylbenzene | ND | | ug/l | 4.0 | -- | 4 |
| Chloromethane | ND | | ug/l | 8.0 | -- | 4 |
| Bromomethane | ND | | ug/l | 8.0 | -- | 4 |
| Vinyl chloride | ND | | ug/l | 4.0 | -- | 4 |
| Chloroethane | ND | | ug/l | 8.0 | -- | 4 |
| 1,1-Dichloroethene | ND | | ug/l | 4.0 | -- | 4 |
| trans-1,2-Dichloroethene | ND | | ug/l | 4.0 | -- | 4 |
| Trichloroethene | 240 | | ug/l | 4.0 | -- | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 4.0 | -- | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 4.0 | -- | 4 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-07 D Date Collected: 11/12/10 10:32

Client ID: APS-108-45.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 4.0 | -- | 4 |
| Methyl tert butyl ether | 11 | | ug/l | 8.0 | -- | 4 |
| p/m-Xylene | ND | | ug/l | 8.0 | -- | 4 |
| o-Xylene | ND | | ug/l | 4.0 | -- | 4 |
| cis-1,2-Dichloroethene | ND | | ug/l | 4.0 | -- | 4 |
| Dibromomethane | ND | | ug/l | 8.0 | -- | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 8.0 | -- | 4 |
| Styrene | ND | | ug/l | 4.0 | -- | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 8.0 | -- | 4 |
| Acetone | ND | | ug/l | 20 | -- | 4 |
| Carbon disulfide | ND | | ug/l | 8.0 | -- | 4 |
| 2-Butanone | ND | | ug/l | 20 | -- | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | -- | 4 |
| 2-Hexanone | ND | | ug/l | 20 | -- | 4 |
| Bromochloromethane | ND | | ug/l | 8.0 | -- | 4 |
| Tetrahydrofuran | ND | | ug/l | 40 | -- | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 8.0 | -- | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | -- | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 8.0 | -- | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 4.0 | -- | 4 |
| Bromobenzene | ND | | ug/l | 8.0 | -- | 4 |
| n-Butylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| sec-Butylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| tert-Butylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| o-Chlorotoluene | ND | | ug/l | 8.0 | -- | 4 |
| p-Chlorotoluene | ND | | ug/l | 8.0 | -- | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 8.0 | -- | 4 |
| Hexachlorobutadiene | ND | | ug/l | 2.4 | -- | 4 |
| Isopropylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| p-Isopropyltoluene | ND | | ug/l | 8.0 | -- | 4 |
| Naphthalene | ND | | ug/l | 8.0 | -- | 4 |
| n-Propylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 8.0 | -- | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 8.0 | -- | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 8.0 | -- | 4 |
| Ethyl ether | ND | | ug/l | 8.0 | -- | 4 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-07 D Date Collected: 11/12/10 10:32

Client ID: APS-108-45.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 8.0 | -- | 4 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 8.0 | -- | 4 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 8.0 | -- | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | -- | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-08 | Date Collected: | 11/12/10 09:47 |
| Client ID: | APS-108-40.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 16:10 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-08 Date Collected: 11/12/10 09:47

Client ID: APS-108-40.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-08 | Date Collected: | 11/12/10 09:47 |
| Client ID: | APS-108-40.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 111 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-09 | Date Collected: | 11/12/10 10:56 |
| Client ID: | APS-109-63.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 16:43 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-09 Date Collected: 11/12/10 10:56

Client ID: APS-109-63.8-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-09 | Date Collected: | 11/12/10 10:56 |
| Client ID: | APS-109-63.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 118 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-10 | Date Collected: | 11/12/10 11:49 |
| Client ID: | APS-109-68.6-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 17:15 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-10 Date Collected: 11/12/10 11:49

Client ID: APS-109-68.6-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-10 | Date Collected: | 11/12/10 11:49 |
| Client ID: | APS-109-68.6-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 109 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-12 | Date Collected: | 11/12/10 11:38 |
| Client ID: | APS-108-62.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 17:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 66 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-12 Date Collected: 11/12/10 11:38

Client ID: APS-108-62.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.6 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-12 | Date Collected: | 11/12/10 11:38 |
| Client ID: | APS-108-62.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 106 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-13 | Date Collected: | 11/12/10 12:34 |
| Client ID: | APS-108-65.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 18:20 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 8.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-13 Date Collected: 11/12/10 12:34

Client ID: APS-108-65.8-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-13 | Date Collected: | 11/12/10 12:34 |
| Client ID: | APS-108-65.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-14 | Date Collected: | 11/12/10 13:01 |
| Client ID: | APS-111-20.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 18:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-14 Date Collected: 11/12/10 13:01

Client ID: APS-111-20.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-14 | Date Collected: | 11/12/10 13:01 |
| Client ID: | APS-111-20.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-16 | Date Collected: | 11/12/10 13:34 |
| Client ID: | APS-111-25.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 22:11 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-16 Date Collected: 11/12/10 13:34

Client ID: APS-111-25.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-16 | Date Collected: | 11/12/10 13:34 |
| Client ID: | APS-111-25.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-17 | Date Collected: | 11/12/10 14:12 |
| Client ID: | APS-110-30.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 22:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-17 Date Collected: 11/12/10 14:12

Client ID: APS-110-30.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-17 | Date Collected: | 11/12/10 14:12 |
| Client ID: | APS-110-30.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-20 | Date Collected: | 11/12/10 14:57 |
| Client ID: | APS-111-35.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 00:16 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-20 Date Collected: 11/12/10 14:57

Client ID: APS-111-35.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-20 | Date Collected: | 11/12/10 14:57 |
| Client ID: | APS-111-35.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-21 | Date Collected: | 11/12/10 15:26 |
| Client ID: | APS-111-40.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 14:49 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.1 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-21 Date Collected: 11/12/10 15:26

Client ID: APS-111-40.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-21 | Date Collected: | 11/12/10 15:26 |
| Client ID: | APS-111-40.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-22 | Date Collected: | 11/12/10 15:42 |
| Client ID: | APS-110-41.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 15:21 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 16 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-22 Date Collected: 11/12/10 15:42

Client ID: APS-110-41.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-22 | Date Collected: | 11/12/10 15:42 |
| Client ID: | APS-110-41.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-23 | Date Collected: | 11/12/10 16:04 |
| Client ID: | APS-111-45.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 15:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-23 Date Collected: 11/12/10 16:04

Client ID: APS-111-45.0-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-23 | Date Collected: | 11/12/10 16:04 |
| Client ID: | APS-111-45.0-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-24 | Date Collected: | 11/12/10 16:24 |
| Client ID: | APS-110-45.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/15/10 16:24 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 50 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

Lab ID: L1018171-24 Date Collected: 11/12/10 16:24

Client ID: APS-110-45.8-20101112-01 Date Received: 11/12/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018171-24 | Date Collected: | 11/12/10 16:24 |
| Client ID: | APS-110-45.8-20101112-01 | Date Received: | 11/12/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:23
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03,05 Batch: WG443051-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:23
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03,05 Batch: WG443051-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 09:23
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03,05 Batch: WG443051-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 90 | | 70-130 |
| Toluene-d8 | 106 | | 70-130 |
| 4-Bromofluorobenzene | 118 | | 70-130 |
| D bromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 14:18
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 06-07,16-17,20-24 Batch: WG443179-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 14:18
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 06-07,16-17,20-24 Batch: WG443179-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 14:18
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 06-07,16-17,20-24 Batch: WG443179-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 15:38
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 08-10,12-14 Batch: WG443190-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 15:38
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 08-10,12-14 Batch: WG443190-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018171

**Project Number:** 0114119 **Report Date:** 11/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/15/10 15:38
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 08-10,12-14 Batch: WG443190-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| D bromofluoromethane | 95 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03,05 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| Methylene chloride | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 98 | | 93 | | 70-130 | 5 | | 20 |
| Chloroform | 100 | | 95 | | 70-130 | 5 | | 20 |
| Carbon tetrachloride | 120 | | 112 | | 70-130 | 7 | | 20 |
| 1,2-Dichloropropane | 89 | | 85 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 97 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 93 | | 90 | | 70-130 | 3 | | 20 |
| Chlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 82 | | 74 | | 70-130 | 10 | | 20 |
| 1,2-Dichloroethane | 93 | | 89 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 97 | | 92 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 100 | | 93 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 95 | | 94 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 98 | | 89 | | 70-130 | 10 | | 20 |
| Bromoform | 117 | | 114 | | 70-130 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 89 | | 94 | | 70-130 | 5 | | 20 |
| Benzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| Toluene | 89 | | 85 | | 70-130 | 5 | | 20 |
| Ethylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03,05 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| Chloromethane | 95 | | 88 | | 70-130 | 8 | | 20 |
| Bromomethane | 70 | | 70 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 75 | | 72 | | 70-130 | 4 | | 20 |
| Chloroethane | 72 | | 70 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 80 | | 71 | | 70-130 | 12 | | 20 |
| trans-1,2-Dichloroethene | 91 | | 83 | | 70-130 | 9 | | 20 |
| Trichloroethene | 92 | | 87 | | 70-130 | 6 | | 20 |
| 1,2-Dichlorobenzene | 86 | | 88 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 93 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 87 | | 82 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 92 | | 89 | | 70-130 | 3 | | 20 |
| o-Xylene | 97 | | 93 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 92 | | 70-130 | 5 | | 20 |
| Dibromomethane | 97 | | 97 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 86 | | 92 | | 70-130 | 7 | | 20 |
| Styrene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Dichlorodifluoromethane | 84 | | 76 | | 70-130 | 10 | | 20 |
| Acetone | 85 | | 93 | | 70-130 | 9 | | 20 |
| Carbon disulfide | 73 | | 70 | | 70-130 | 4 | | 20 |
| 2-Butanone | 84 | | 84 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03,05 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 92 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 88 | | 91 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 95 | | 90 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 83 | | 82 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 113 | | 102 | | 70-130 | 10 | | 20 |
| 1,2-Dibromoethane | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 93 | | 70-130 | 5 | | 20 |
| Bromobenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 84 | | 86 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 74 | | 74 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 97 | | 95 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 107 | | 112 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | 87 | | 81 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 90 | | 92 | | 70-130 | 2 | | 20 |
| Naphthalene | 73 | | 79 | | 70-130 | 8 | | 20 |
| n-Propylbenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 74 | | 80 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03,05 Batch: WG443051-1 WG443051-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 78 | | 80 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 70 | | 71 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 87 | | 89 | | 70-130 | 2 | | 20 |
| Ethyl ether | 77 | | 75 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 84 | | 81 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 90 | | 86 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 93 | | 89 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 103 | | 88 | | 70-130 | 16 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 92 | | 70-130 |
| Toluene-d8 | 102 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 103 | | 70-130 |
| Dibromofluoromethane | 100 | | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06-07,16-17,20-24 Batch: WG443179-1 WG443179-2 | | | | | | | | |
| Methylene chloride | 91 | | 93 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 86 | | 89 | | 70-130 | 3 | | 20 |
| Chloroform | 90 | | 92 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 75 | | 84 | | 70-130 | 11 | | 20 |
| 1,2-Dichloropropane | 87 | | 88 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 82 | | 87 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 94 | | 97 | | 70-130 | 3 | | 20 |
| Chlorobenzene | 88 | | 90 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 108 | | 104 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 87 | | 88 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 78 | | 85 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 82 | | 86 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 74 | | 78 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 73 | | 76 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Bromoform | 86 | | 94 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 99 | | 100 | | 70-130 | 1 | | 20 |
| Benzene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Toluene | 90 | | 93 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 92 | | 95 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06-07,16-17,20-24 Batch: WG443179-1 WG443179-2 | | | | | | | | |
| Chloromethane | 82 | | 85 | | 70-130 | 4 | | 20 |
| Bromomethane | 81 | | 85 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 90 | | 93 | | 70-130 | 3 | | 20 |
| Chloroethane | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 90 | | 92 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 86 | | 90 | | 70-130 | 5 | | 20 |
| Trichloroethene | 87 | | 90 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 84 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 92 | | 95 | | 70-130 | 3 | | 20 |
| o-Xylene | 94 | | 96 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 92 | | 95 | | 70-130 | 3 | | 20 |
| Dibromomethane | 101 | | 100 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 98 | | 95 | | 70-130 | 3 | | 20 |
| Styrene | 91 | | 93 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 70 | | 71 | | 70-130 | 1 | | 20 |
| Acetone | 91 | | 88 | | 70-130 | 3 | | 20 |
| Carbon disulfide | 76 | | 80 | | 70-130 | 5 | | 20 |
| 2-Butanone | 93 | | 99 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06-07,16-17,20-24 Batch: WG443179-1 WG443179-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 84 | | 86 | | 70-130 | 2 | | 20 |
| 2-Hexanone | 90 | | 88 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 93 | | 86 | | 70-130 | 8 | | 20 |
| 2,2-Dichloropropane | 80 | | 84 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 80 | | 86 | | 70-130 | 7 | | 20 |
| Bromobenzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 77 | | 77 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 94 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 80 | | 80 | | 70-130 | 0 | | 20 |
| Hexachlorobutadiene | 85 | | 88 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 90 | | 94 | | 70-130 | 4 | | 20 |
| p-Isopropyltoluene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Naphthalene | 94 | | 88 | | 70-130 | 7 | | 20 |
| n-Propylbenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 90 | | 84 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06-07,16-17,20-24 Batch: WG443179-1 WG443179-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 87 | | 84 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Ethyl ether | 91 | | 90 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 85 | | 85 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 80 | | 80 | | 70-130 | 0 | | 20 |
| Tertiary-Amyl Methyl Ether | 88 | | 86 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 109 | | 106 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 99 | | 70-130 |
| Toluene-d8 | 100 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 |
| Dibromofluoromethane | 100 | | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-10,12-14 Batch: WG443190-1 WG443190-2 | | | | | | | | |
| Methylene chloride | 100 | | 104 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethane | 100 | | 103 | | 70-130 | 3 | | 20 |
| Chloroform | 102 | | 109 | | 70-130 | 7 | | 20 |
| Carbon tetrachloride | 116 | | 121 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 92 | | 97 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 108 | | 111 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 105 | | 109 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 96 | | 99 | | 70-130 | 3 | | 20 |
| Chlorobenzene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 83 | | 89 | | 70-130 | 7 | | 20 |
| 1,2-Dichloroethane | 104 | | 101 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 97 | | 105 | | 70-130 | 8 | | 20 |
| Bromodichloromethane | 106 | | 104 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 105 | | 102 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 93 | | 99 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 96 | | 103 | | 70-130 | 7 | | 20 |
| Bromoform | 129 | | 118 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 101 | | 70-130 | 0 | | 20 |
| Benzene | 100 | | 102 | | 70-130 | 2 | | 20 |
| Toluene | 93 | | 98 | | 70-130 | 5 | | 20 |
| Ethylbenzene | 96 | | 100 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-10,12-14 Batch: WG443190-1 WG443190-2 | | | | | | | | |
| Chloromethane | 97 | | 104 | | 70-130 | 7 | | 20 |
| Bromomethane | 78 | | 78 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 74 | | 81 | | 70-130 | 9 | | 20 |
| Chloroethane | 75 | | 83 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 82 | | 86 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Trichloroethene | 95 | | 98 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 95 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 89 | | 84 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 98 | | 102 | | 70-130 | 4 | | 20 |
| o-Xylene | 100 | | 104 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 101 | | 101 | | 70-130 | 0 | | 20 |
| Dibromomethane | 103 | | 108 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 100 | | 70-130 | 1 | | 20 |
| Styrene | 98 | | 101 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 87 | | 90 | | 70-130 | 3 | | 20 |
| Acetone | 107 | | 92 | | 70-130 | 15 | | 20 |
| Carbon disulfide | 75 | | 79 | | 70-130 | 5 | | 20 |
| 2-Butanone | 96 | | 95 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-10,12-14 Batch: WG443190-1 WG443190-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 104 | | 95 | | 70-130 | 9 | | 20 |
| 2-Hexanone | 92 | | 91 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 102 | | 106 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 81 | | 84 | | 70-130 | 4 | | 20 |
| 2,2-Dichloropropane | 105 | | 112 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 111 | | 107 | | 70-130 | 4 | | 20 |
| 1,3-Dichloropropane | 111 | | 108 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 103 | | 105 | | 70-130 | 2 | | 20 |
| Bromobenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 86 | | 89 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 77 | | 79 | | 70-130 | 3 | | 20 |
| p-Chlorotoluene | 97 | | 104 | | 70-130 | 7 | | 20 |
| 1,2-Dibromo-3-chloropropane | 124 | | 120 | | 70-130 | 3 | | 20 |
| Hexachlorobutadiene | 90 | | 92 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Naphthalene | 85 | | 76 | | 70-130 | 11 | | 20 |
| n-Propylbenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 83 | | 80 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-10,12-14 Batch: WG443190-1 WG443190-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 87 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 73 | | 74 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Ethyl ether | 87 | | 84 | | 70-130 | 4 | | 20 |
| Isopropyl Ether | 86 | | 87 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 88 | | 90 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 110 | | 100 | | 70-130 | 10 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 94 | | 70-130 |
| Toluene-d8 | 101 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 99 | | 70-130 |
| Dibromofluoromethane | 97 | | 98 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018171-01A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-01B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-02A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-02B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-03A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-03B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-04A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-04B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-05A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-05B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-06A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-06B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-07A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-07B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-08A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-08B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-09A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-09B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-10A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-10B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-11A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-11B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-12A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-12B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-13A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-13B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-14A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018171
**Report Date:** 11/16/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018171-14B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-15A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-15B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-16A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-16B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-17A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-17B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-18A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-18B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-19A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-19B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | HOLD(14) |
| L1018171-20A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-20B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-21A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-21B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-22A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-22B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-23A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-23B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-24A | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |
| L1018171-24B | Vial HCl preserved | A | N/A | 2.8 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1018171
**Project Number:** 0114119 **Report Date:** 11/16/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018171 |
| **Project Number:** | 0114119 | **Report Date:** | 11/16/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018171
**Project Number:** 0114119 **Report Date:** 11/16/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 11/12/10

ALPHA Job #: L1018171

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial No:11161010:31

**Client Information**

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON. FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48hr.
Date Due: 11/16/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18171 1 | EB-09-20101111-01 | 11/11/10 | 1611 | GW | JM | 2 | HOLD | |
| 2 | APS-109-35.8-20101111-01 | 11/11/10 | 1644 | ↓ | ↓ | 2 | | |
| 3 | APS-108-30.0-20101111-01 | 11/11/10 | 1714 | | | 2 | | |
| 4 | APS-108-35.0-20101112-01 | 11/12/10 | 0823 | | | 2 | HOLD | |
| 5 | APS-109-54.0-20101112-01 | 11/12/10 | 0920 | | | 2 | | |
| 6 | APS-109-58.8-20101112-01 | 11/12/10 | 1006 | | | 2 | | |
| 7 | APS-108-45.0-20101112-01 | 11/12/10 | 1032 | | | 2 | | |
| 8 | APS-108-40.0-20101112-01 | 11/12/10 | 0947 | | | 2 | | |
| 9 | APS-109-63.8-20101112-01 | 11/12/10 | 1056 | | | 2 | | |
| 10 | APS-109-68.6-20101112-01 | 11/12/10 | 1149 | ↓ | ↓ | 2 | | |

Container Type: VIAL
Preservative: HCL

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/12/10 1631 | [signature] | 11/12/10 1630 |
| [signature] | 11/12/10 1720 | [signature] | 11/12/10 1720 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

(19-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/12/10

ALPHA Job #: L1018571

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon

Project Location: Wayland, MA

Project #:

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!)

Date Due: 48 hr. Time: 11/16/10

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 18171 11 | EB-11-20101112-01 | 11/12/10 | 1210 | GW | LJM | 2 | HOLD | |
| 12 | APS-108-62.0-20101112-01 | | 1138 | | | 2 | | |
| 13 | APS-108-65.8-20101112-01 | | 1234 | | | 2 | | |
| 14 | APS-111-20.0-20101112-01 | " | 1301 | | | 2 | | |
| 15 | EB-10-20101112-01 | | 1420 | | | 2 | HOLD | |
| 16 | APS-111-25.0-20101112-01 | | 1334 | | | 2 | | |
| 17 | APS-110-30.0-20101112-01 | | 1412 | | | 2 | ~~HOLD~~ BK | |
| 18 | APS-110-35.9-20101112-01 | | 1454 | | | 2 | HOLD | |
| 19 | APS-111-30.0-20101112-01 | | 1423 | | | 2 | HOLD | |
| 20 | APS-111-35.0-20101112-01 | | 1457 | | | 2 | | |

Container Type: VOA

Preservative: HCl

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible signature] | 11/12/10 1631 | [illegible signature] | 11/12/10 1631 |
| [illegible signature] | 11/12/10 1730 | | |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:11161010:31

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/12/10

ALPHA Job #: L1018171

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon

Project Location: Wayland, MA

Project #:

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!)

Date Due: 48 hrs 11/16/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18171 21 | APS-111-40.0-20101112-01 | 11/12/10 | 1526 | GW | LSM | 2 | | |
| 22 | APS-110-41.0-20101112-01 | 11/12/10 | 1542 | GW | LSM | 2 | | |
| 23 | APS-111-45.0-20101112-01 | 11/12/10 | 1604 | GW | LSM | 2 | | |
| 24 | APS-110-45.8-20101112-01 | 11/12/10 | 1624 | GW | LSM | 2 | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| | VOA |
|---|---|
| Container Type | VOA |
| Preservative | HCl |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/12/10 1631 | [signature] | 11-12-10 16:31 |
| [signature] | 11/12/10 1734 | | |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial No:11161010:31

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Quimby.i  Calibration Date: 15-NOV-2010  Time: 13:15

Lab File ID: 1115N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .29484 | .1 | 30 | 20 | F |
| chloromethane | .62163 | .50878 | .1 | 18 | 20 | |
| vinyl chloride | .4285 | .3876 | .1 | 10 | 20 | |
| bromomethane | .32572 | .26396 | .1 | 19 | 20 | |
| chloroethane | .35035 | .30825 | .1 | 12 | 20 | |
| trichlorofluoromethane | .6241 | .67677 | .1 | -8 | 20 | |
| ethyl ether | .13811 | .12574 | .05 | 9 | 20 | |
| freon-113 | .33265 | .36619 | .1 | -10 | 20 | |
| acetone | 100 | 90.625 | .1 | 9 | 20 | |
| 1,1,-dichloroethene | .31495 | .28362 | .1 | 10 | 20 | |
| methylene chloride | .34246 | .31229 | .1 | 9 | 20 | |
| carbon disulfide | .90993 | .69045 | .1 | 24 | 20 | F |
| methyl tert butyl ether | .48005 | .40117 | .1 | 16 | 20 | |
| trans-1,2-dichloroethene | .36264 | .31262 | .1 | 14 | 20 | |
| Diisopropyl Ether | 1.1682 | .9948 | .05 | 15 | 20 | |
| 1,1-dichloroethane | .70419 | .60648 | .2 | 14 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .58464 | .05 | 20 | 20 | |
| 2-butanone | .06714 | .06229 | .1 | 7 | 20 | F |
| 2,2-dichloropropane | .34238 | .27503 | .05 | 20 | 20 | |
| cis-1,2-dichloroethene | .37932 | .3493 | .1 | 8 | 20 | |
| chloroform | .61594 | .55431 | .2 | 10 | 20 | |
| bromochloromethane | .12887 | .12053 | .05 | 6 | 20 | |
| tetrahydrofuran | .04454 | .04158 | .05 | 7 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .38671 | .1 | 22 | 20 | F |
| 1,1-dichloropropene | .52258 | .44651 | .05 | 15 | 20 | |
| carbontetrachloride | .35402 | .26429 | .1 | 25 | 20 | F |
| Tertiary-Amyl Methyl Ether | .46697 | .40844 | .05 | 13 | 20 | |
| 1,2-dichloroethane | .39579 | .34488 | .1 | 13 | 20 | |
| benzene | 1.5397 | 1.3835 | .5 | 10 | 20 | |
| trichloroethene | .37211 | .32457 | .2 | 13 | 20 | |
| 1,2-dichloropropane | .35603 | .30833 | .1 | 13 | 20 | |
| bromodichloromethane | .35384 | .29105 | .2 | 18 | 20 | |
| 1,4-dioxane | .00109 | .00119 | .05 | -9 | 20 | F |
| dibromomethane | .12703 | .12795 | .05 | -1 | 20 | |
| 4-methyl-2-pentanone | .04832 | .0407 | .1 | 16 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .30557 | .2 | 27 | 20 | F |
| toluene | 1.2794 | 1.1498 | .4 | 10 | 20 | |
| trans-1,3-dichloropropene | .38217 | .28249 | .1 | 26 | 20 | F |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Quimby.i  Calibration Date: 15-NOV-2010  Time: 13:15

Lab File ID: 1115N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .21745 | .20779 | .1 | 4 | 20 | |
| 2-hexanone | .12616 | .11352 | .1 | 10 | 20 | |
| 1,3-dichloropropane | .48008 | .46269 | .05 | 4 | 20 | |
| tetrachloroethene | .50656 | .47371 | .2 | 6 | 20 | |
| chlorodibromomethane | .22898 | .18656 | .1 | 19 | 20 | |
| 1,2-dibromoethane | .21845 | .20969 | .1 | 4 | 20 | |
| chlorobenzene | 1.3784 | 1.2183 | .5 | 12 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .27075 | .05 | 20 | 20 | F |
| ethyl benzene | 2.6402 | 2.4398 | .1 | 8 | 20 | |
| p/m xylene | 1.0415 | .95403 | .1 | 8 | 20 | |
| o xylene | .99264 | .93491 | .3 | 6 | 20 | |
| styrene | 1.5901 | 1.4424 | .31 | 9 | 20 | |
| isopropylbenzene | 2.7063 | 2.4417 | .1 | 10 | 20 | |
| bromoform | .16937 | .14551 | .1 | 14 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .45288 | .3 | 1 | 20 | |
| 1,2,3-trichloropropane | .359 | .35318 | .05 | 2 | 20 | |
| n-propylbenzene | 5.3817 | 5.0625 | .05 | 6 | 20 | |
| bromobenzene | .8701 | .82903 | .05 | 5 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.3031 | .05 | 11 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3406 | .05 | 8 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9969 | .05 | 10 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8170 | .05 | 8 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.5096 | .05 | 6 | 20 | |
| sec-butylbenzene | 4.6047 | 4.2548 | .05 | 8 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.4426 | .05 | 4 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.7595 | .6 | 6 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7392 | .5 | 3 | 20 | |
| n-butylbenzene | 4.0323 | 3.1179 | .05 | 23 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.5009 | .4 | 5 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 80.080 | .05 | 20 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .69633 | .2 | 13 | 20 | |
| hexachlorobutadiene | .39925 | .33807 | .05 | 15 | 20 | |
| naphthalene | 1.1650 | 1.0970 | .05 | 6 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .53424 | .05 | 10 | 20 | |
| dibromofluoromethane | .2204 | .22088 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21962 | .05 | 3 | 20 | |
| toluene-d8 | 1.2994 | 1.3056 | .05 | 0 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Quimby.i  Calibration Date: 15-NOV-2010  Time: 13:15

Lab File ID: 1115N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 4-bromofluorobenzene | .89239 | .8655 | .05 | 3 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 14:33

Lab File ID: 1115Z04  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79247 | .68812 | .1 | 13 | 20 | |
| chloromethane | .84182 | .8202 | .1 | 3 | 20 | |
| vinyl chloride | 1.3738 | 1.0203 | .1 | 26 | 20 | F |
| bromomethane | 1.1065 | .86785 | .1 | 22 | 20 | F |
| chloroethane | .89365 | .66905 | .1 | 25 | 20 | F |
| trichlorofluoromethane | 2.9031 | 2.3972 | .1 | 17 | 20 | |
| ethyl ether | .56072 | .48551 | .05 | 13 | 20 | |
| 1,1,-dichloroethene | 1.5853 | 1.3033 | .1 | 18 | 20 | |
| carbon disulfide | 3.7087 | 2.7944 | .05 | 25 | 20 | F |
| methylene chloride | .63013 | .63288 | .05 | 0 | 20 | |
| acetone | 100 | 107 | .1 | -7 | 20 | |
| trans-1,2-dichloroethene | .70888 | .658 | .1 | 7 | 20 | |
| methyl tert butyl ether | 1.2212 | 1.0837 | .1 | 11 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4203 | 1.2429 | .05 | 12 | 20 | |
| Diisopropyl Ether | 2.0664 | 1.7834 | .05 | 14 | 20 | |
| 1,1-dichloroethane | 1.1803 | 1.1817 | .2 | 0 | 20 | |
| cis-1,2-dichloroethene | .74589 | .75656 | .1 | -1 | 20 | |
| 2,2-dichloropropane | .79776 | .83721 | .05 | -5 | 20 | |
| bromochloromethane | .34758 | .35326 | .05 | -2 | 20 | |
| chloroform | 1.1767 | 1.2032 | .2 | -2 | 20 | |
| carbontetrachloride | .77298 | .89661 | .1 | -16 | 20 | |
| tetrahydrofuran | .13527 | .10993 | .05 | 19 | 20 | |
| 1,1,1-trichloroethane | 1.0862 | 1.0533 | .1 | 3 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.2129 | 1.1654 | .05 | 4 | 20 | |
| 1,1-dichloropropene | .99168 | .95741 | .05 | 3 | 20 | |
| 2-butanone | .15937 | .15378 | .1 | 4 | 20 | |
| benzene | 2.7825 | 2.7989 | .5 | -1 | 20 | |
| 1,2-dichloroethane | .72552 | .75232 | .1 | -4 | 20 | |
| trichloroethene | .79783 | .75556 | .2 | 5 | 20 | |
| dibromomethane | .34162 | .35069 | .05 | -3 | 20 | |
| 1,2-dichloropropane | .69079 | .63626 | .1 | 8 | 20 | |
| bromodichloromethane | .87051 | .92472 | .2 | -6 | 20 | |
| 1,4-dioxane | .00212 | .00233 | .05 | -10 | 20 | F |
| cis-1,3-dichloropropene | .87667 | .8116 | .2 | 7 | 20 | |
| toluene | 2.2152 | 2.0568 | .4 | 7 | 20 | |
| tetrachloroethene | 1.0165 | .97422 | .2 | 4 | 20 | |
| 4-methyl-2-pentanone | .10936 | .11342 | .1 | -4 | 20 | |
| trans-1,3-dichloropropene | .7843 | .82729 | .1 | -5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 14:33

Lab File ID: 1115Z04  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .43307 | .45449 | .1 | -5 | 20 | |
| chlorodibromomethane | .62522 | .67465 | .1 | -8 | 20 | |
| 1,3-dichloropropane | .88473 | .97953 | .05 | -11 | 20 | |
| 1,2-dibromoethane | .49454 | .54859 | .1 | -11 | 20 | |
| 2-hexanone | .23096 | .21141 | .1 | 8 | 20 | |
| chlorobenzene | 2.3979 | 2.2428 | .5 | 6 | 20 | |
| ethyl benzene | 4.1020 | 3.9364 | .1 | 4 | 20 | |
| 1,1,1,2-tetrachloroethane | .7304 | .75251 | .05 | -3 | 20 | |
| p/m xylene | 1.7387 | 1.7046 | .1 | 2 | 20 | |
| o xylene | 1.6122 | 1.6062 | .3 | 0 | 20 | |
| styrene | 2.7207 | 2.6806 | .3 | 1 | 20 | |
| bromoform | .47714 | .61485 | .1 | -29 | 20 | F |
| isopropylbenzene | 4.2038 | 4.0930 | .1 | 3 | 20 | |
| bromobenzene | 1.5890 | 1.5470 | .05 | 3 | 20 | |
| n-propylbenzene | 7.2092 | 7.0470 | .05 | 2 | 20 | |
| 1,1,2,2,-tetrachloroethane | .96526 | .9738 | .3 | -1 | 20 | |
| 2-chlorotoluene | 5.2746 | 4.0597 | .05 | 23 | 20 | F |
| 1,2,3-trichloropropane | .7773 | .77081 | .05 | 1 | 20 | |
| 1,3,5-trimethybenzene | 6.2997 | 4.6089 | .05 | 27 | 20 | F |
| 4-chorotoluene | 4.3249 | 4.1927 | .05 | 3 | 20 | |
| tert-butylbenzene | 4.5038 | 4.3156 | .05 | 4 | 20 | |
| 1,2,4-trimethylbenzene | 4.8131 | 4.4320 | .05 | 8 | 20 | |
| sec-butylbenzene | 6.2802 | 6.0230 | .05 | 4 | 20 | |
| p-isopropyltoluene | 5.1272 | 4.8127 | .05 | 6 | 20 | |
| 1,3-dichlorobenzene | 3.5415 | 3.2745 | .6 | 8 | 20 | |
| 1,4-dichlorobenzene | 3.3597 | 3.2644 | .5 | 3 | 20 | |
| n-butylbenzene | 3.6821 | 3.1854 | .05 | 13 | 20 | |
| 1,2-dichlorobenzene | 2.9394 | 2.8058 | .4 | 5 | 20 | |
| 1,2-dibromo-3-chloropropane | .0991 | .12255 | .05 | -24 | 20 | F |
| hexachlorobutadiene | .57048 | .51426 | .05 | 10 | 20 | |
| 1,2,4-trichlorobenzene | 1.1839 | .99418 | .2 | 16 | 20 | |
| naphthalene | 1.5721 | 1.3347 | .05 | 15 | 20 | |
| 1,2,3-trichlorobenzene | 1.0038 | .83593 | .05 | 17 | 20 | |
| dibromofluoromethane | .27504 | .26738 | .05 | 3 | 20 | |
| 1,2-dichloroethane-d4 | .25531 | .23588 | .05 | 8 | 20 | |
| toluene-d8 | 1.1660 | 1.1768 | .05 | -1 | 20 | |
| 4-bromofluorobenzene | .6928 | .69631 | .05 | -1 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:46

Lab File ID: 1115N02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .79247 | .66938 | .1 | 16 | 20 | |
| chloromethane | .84182 | .8001 | .1 | 5 | 20 | |
| vinyl chloride | 1.3738 | 1.0279 | .1 | 25 | 20 | F |
| bromomethane | 1.1065 | .7789 | .1 | 30 | 20 | F |
| chloroethane | .89365 | .63984 | .1 | 28 | 20 | F |
| trichlorofluoromethane | 2.9031 | 2.3692 | .1 | 18 | 20 | |
| ethyl ether | .56072 | .43341 | .05 | 23 | 20 | F |
| 1,1,-dichloroethene | 1.5853 | 1.2681 | .1 | 20 | 20 | F |
| carbon disulfide | 3.7087 | 2.6928 | .05 | 27 | 20 | F |
| methylene chloride | .63013 | .61574 | .05 | 2 | 20 | |
| acetone | 100 | 84.717 | .1 | 15 | 20 | |
| trans-1,2-dichloroethene | .70888 | .6442 | .1 | 9 | 20 | |
| methyl tert butyl ether | 1.2212 | 1.0632 | .1 | 13 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4203 | 1.2724 | .05 | 10 | 20 | |
| Diisopropyl Ether | 2.0664 | 1.7394 | .05 | 16 | 20 | |
| 1,1-dichloroethane | 1.1803 | 1.1557 | .2 | 2 | 20 | |
| cis-1,2-dichloroethene | .74589 | .72441 | .1 | 3 | 20 | |
| 2,2-dichloropropane | .79776 | .90432 | .05 | -13 | 20 | |
| bromochloromethane | .34758 | .33059 | .05 | 5 | 20 | |
| chloroform | 1.1767 | 1.1742 | .2 | 0 | 20 | |
| carbontetrachloride | .77298 | .92887 | .1 | -20 | 20 | F |
| tetrahydrofuran | .13527 | .11259 | .05 | 17 | 20 | |
| 1,1,1-trichloroethane | 1.0862 | 1.0489 | .1 | 3 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.2129 | 1.1312 | .05 | 7 | 20 | |
| 1,1-dichloropropene | .99168 | .96871 | .05 | 2 | 20 | |
| 2-butanone | .15937 | .13417 | .1 | 16 | 20 | |
| benzene | 2.7825 | 2.6832 | .5 | 4 | 20 | |
| 1,2-dichloroethane | .72552 | .67627 | .1 | 7 | 20 | |
| trichloroethene | .79783 | .73282 | .2 | 8 | 20 | |
| dibromomethane | .34162 | .33074 | .05 | 3 | 20 | |
| 1,2-dichloropropane | .69079 | .61484 | .1 | 11 | 20 | |
| bromodichloromethane | .87051 | .87043 | .2 | 0 | 20 | |
| 1,4-dioxane | .00212 | .00219 | .05 | -3 | 20 | F |
| cis-1,3-dichloropropene | .87667 | .85319 | .2 | 3 | 20 | |
| toluene | 2.2152 | 1.9632 | .4 | 11 | 20 | |
| tetrachloroethene | 1.0165 | .94564 | .2 | 7 | 20 | |
| 4-methyl-2-pentanone | .10936 | .09773 | .1 | 11 | 20 | |
| trans-1,3-dichloropropene | .7843 | .74785 | .1 | 5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018171

Instrument ID: Jack.i  Calibration Date: 15-NOV-2010  Time: 07:46

Lab File ID: 1115N02  Init. Calib. Date(s): 03-NOV-2  03-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 13:36  20:37

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .43307 | .43262 | .1 | 0 | 20 | |
| chlorodibromomethane | .62522 | .62344 | .1 | 0 | 20 | |
| 1,3-dichloropropane | .88473 | .8532 | .05 | 4 | 20 | |
| 1,2-dibromoethane | .49454 | .48594 | .1 | 2 | 20 | |
| 2-hexanone | .23096 | .20318 | .1 | 12 | 20 | |
| chlorobenzene | 2.3979 | 2.1218 | .5 | 12 | 20 | |
| ethyl benzene | 4.1020 | 3.7887 | .1 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .7304 | .71978 | .05 | 1 | 20 | |
| p/m xylene | 1.7387 | 1.5996 | .1 | 8 | 20 | |
| o xylene | 1.6122 | 1.5602 | .3 | 3 | 20 | |
| styrene | 2.7207 | 2.5475 | .3 | 6 | 20 | |
| bromoform | .47714 | .5606 | .1 | -17 | 20 | |
| isopropylbenzene | 4.2038 | 3.9001 | .1 | 7 | 20 | |
| bromobenzene | 1.5890 | 1.4435 | .05 | 9 | 20 | |
| n-propylbenzene | 7.2092 | 6.8195 | .05 | 5 | 20 | |
| 1,1,2,2,-tetrachloroethane | .96526 | .86052 | .3 | 11 | 20 | |
| 2-chlorotoluene | 5.2746 | 3.8999 | .05 | 26 | 20 | F |
| 1,2,3-trichloropropane | .7773 | .66704 | .05 | 14 | 20 | |
| 1,3,5-trimethybenzene | 6.2997 | 4.3945 | .05 | 30 | 20 | F |
| 4-chorotoluene | 4.3249 | 4.1877 | .05 | 3 | 20 | |
| tert-butylbenzene | 4.5038 | 4.1203 | .05 | 9 | 20 | |
| 1,2,4-trimethylbenzene | 4.8131 | 4.1965 | .05 | 13 | 20 | |
| sec-butylbenzene | 6.2802 | 5.7958 | .05 | 8 | 20 | |
| p-isopropyltoluene | 5.1272 | 4.6283 | .05 | 10 | 20 | |
| 1,3-dichlorobenzene | 3.5415 | 2.9983 | .6 | 15 | 20 | |
| 1,4-dichlorobenzene | 3.3597 | 3.0052 | .5 | 11 | 20 | |
| n-butylbenzene | 3.6821 | 3.1045 | .05 | 16 | 20 | |
| 1,2-dichlorobenzene | 2.9394 | 2.5287 | .4 | 14 | 20 | |
| 1,2-dibromo-3-chloropropane | .0991 | .10633 | .05 | -7 | 20 | |
| hexachlorobutadiene | .57048 | .49711 | .05 | 13 | 20 | |
| 1,2,4-trichlorobenzene | 1.1839 | .92492 | .2 | 22 | 20 | F |
| naphthalene | 1.5721 | 1.1440 | .05 | 27 | 20 | F |
| 1,2,3-trichlorobenzene | 1.0038 | .7439 | .05 | 26 | 20 | F |
| dibromofluoromethane | .27504 | .2744 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .25531 | .24528 | .05 | 4 | 20 | |
| toluene-d8 | 1.1660 | 1.1865 | .05 | -2 | 20 | |
| 4-bromofluorobenzene | .6928 | .69978 | .05 | -1 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018248 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/17/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018248-01 | APS-110-59.8-20101115-01 | WAYLAND, MA | 11/15/10 08:13 |
| L1018248-02 | APS-110-65.0-20101115-01 | WAYLAND, MA | 11/15/10 08:55 |
| L1018248-03 | APS-111-54.6-20101115-01 | WAYLAND, MA | 11/15/10 09:11 |
| L1018248-04 | APS-111-49.0-20101115-01 | WAYLAND, MA | 11/15/10 08:29 |
| L1018248-05 | APS-111-63.75-20101115-01 | WAYLAND, MA | 11/15/10 09:57 |
| L1018248-06 | APS-110-69.8-20101115-01 | WAYLAND, MA | 11/15/10 09:32 |
| L1018248-07 | APS-110-74.0-20101115-01 | WAYLAND, MA | 11/15/10 10:51 |
| L1018248-08 | APS-111-71.0-20101115-01 | WAYLAND, MA | 11/15/10 11:24 |
| L1018248-09 | APS-111-82.4-20101115-01 | WAYLAND, MA | 11/15/10 12:27 |
| L1018248-10 | EB-12-20101115-01 | WAYLAND, MA | 11/15/10 11:20 |
| L1018248-11 | APS-112-29.6-20101115-01 | WAYLAND, MA | 11/15/10 12:41 |
| L1018248-12 | APS-112-35.0-20101115-01 | WAYLAND, MA | 11/15/10 13:16 |
| L1018248-13 | EB-13-20101115-01 | WAYLAND, MA | 11/15/10 13:50 |
| L1018248-14 | APS-112-40.0-20101115-01 | WAYLAND, MA | 11/15/10 13:54 |
| L1018248-15 | APS-111-86.6-20101115-01 | WAYLAND, MA | 11/15/10 13:18 |
| L1018248-16 | APS-112-45.0-20101115-01 | WAYLAND, MA | 11/15/10 14:34 |
| L1018248-17 | APS-113-20.0-20101115-01 | WAYLAND, MA | 11/15/10 14:34 |
| L1018248-18 | APS-113-24.4-20101115-01 | WAYLAND, MA | 11/15/10 15:15 |
| L1018248-19 | APS-112-49.1-20101115-01 | WAYLAND, MA | 11/15/10 15:33 |
| L1018248-20 | APS-113-29.5-20101115-01 | WAYLAND, MA | 11/15/10 15:51 |
| L1018248-21 | APS-113-35.0-20101115-01 | WAYLAND, MA | 11/15/10 16:21 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018248
**Project Number:** 0114119 **Report Date:** 11/17/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

L1018248-19 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The surrogate recovery for L1018248-16 is above the acceptance criteria for 1,2-Dichloroethane-d4 (135%). Since the sample was non-detect for all target analytes, re-analysis is not required.

The WG443428-2 LCSD recovery, associated with L1018248-01 through -09, -14, -15, -16 and -21, is

**Project Name:** RAYTHEON **Lab Number:** L1018248
**Project Number:** 0114119 **Report Date:** 11/17/10

**Case Narrative (continued)**

below the individual acceptance criteria for trans-1,3-Dichloropropene (66%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG443453-2 LCS/LCSD recoveries, associated with L1018248-19 and -20, are below the individual acceptance criteria for trans-1,3-Dichloropropene (68%) and cis-1,3-Dichloropropene (69%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The initial calibration, associated with L1018248-01 through -09, 14, -15, -16, -19, -20 and -21, did not meet the method required minimum response factor for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The continuing calibration standards associated with L1018248-01 through -09, 14, -15, -16, -19, -20 and -21, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/17/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-01 | Date Collected: | 11/15/10 08:13 |
| Client ID: | APS-110-59.8-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 15:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 10 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-01 Date Collected: 11/15/10 08:13

Client ID: APS-110-59.8-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-01 | Date Collected: | 11/15/10 08:13 |
| Client ID: | APS-110-59.8-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-02 | Date Collected: | 11/15/10 08:55 |
| Client ID: | APS-110-65.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 16:11 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-02 Date Collected: 11/15/10 08:55

Client ID: APS-110-65.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-02 | Date Collected: | 11/15/10 08:55 |
| Client ID: | APS-110-65.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-03 | Date Collected: | 11/15/10 09:11 |
| Client ID: | APS-111-54.6-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 16:43 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-03 Date Collected: 11/15/10 09:11

Client ID: APS-111-54.6-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-03 | Date Collected: | 11/15/10 09:11 |
| Client ID: | APS-111-54.6-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-04 | Date Collected: | 11/15/10 08:29 |
| Client ID: | APS-111-49.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 17:14 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-04 Date Collected: 11/15/10 08:29

Client ID: APS-111-49.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 2.6 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-04 | Date Collected: | 11/15/10 08:29 |
| Client ID: | APS-111-49.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-05 | Date Collected: | 11/15/10 09:57 |
| Client ID: | APS-111-63.75-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 17:46 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 2.3 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.3 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 9.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 110 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-05 Date Collected: 11/15/10 09:57

Client ID: APS-111-63.75-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 23 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-05 | Date Collected: | 11/15/10 09:57 |
| Client ID: | APS-111-63.75-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 4.4 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-06 | Date Collected: | 11/15/10 09:32 |
| Client ID: | APS-110-69.8-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 18:17 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 3.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 26 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-06 Date Collected: 11/15/10 09:32

Client ID: APS-110-69.8-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-06 | Date Collected: | 11/15/10 09:32 |
| Client ID: | APS-110-69.8-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-07 | Date Collected: | 11/15/10 10:51 |
| Client ID: | APS-110-74.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 18:48 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 24 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-07 Date Collected: 11/15/10 10:51

Client ID: APS-110-74.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-07 | Date Collected: | 11/15/10 10:51 |
| Client ID: | APS-110-74.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-08 | Date Collected: | 11/15/10 11:24 |
| Client ID: | APS-111-71.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 19:20 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-08 Date Collected: 11/15/10 11:24

Client ID: APS-111-71.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-08 | Date Collected: | 11/15/10 11:24 |
| Client ID: | APS-111-71.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-09 | Date Collected: | 11/15/10 12:27 |
| Client ID: | APS-111-82.4-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 19:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-09 Date Collected: 11/15/10 12:27

Client ID: APS-111-82.4-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-09 | Date Collected: | 11/15/10 12:27 |
| Client ID: | APS-111-82.4-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-14 | Date Collected: | 11/15/10 13:54 |
| Client ID: | APS-112-40.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 20:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.9 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 11 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-14 Date Collected: 11/15/10 13:54

Client ID: APS-112-40.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-14 | Date Collected: | 11/15/10 13:54 |
| Client ID: | APS-112-40.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-15 | Date Collected: | 11/15/10 13:18 |
| Client ID: | APS-111-86.6-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 20:54 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-15 Date Collected: 11/15/10 13:18

Client ID: APS-111-86.6-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-15 | Date Collected: | 11/15/10 13:18 |
| Client ID: | APS-111-86.6-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-16 | Date Collected: | 11/15/10 14:34 |
| Client ID: | APS-112-45.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 21:26 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-16 Date Collected: 11/15/10 14:34

Client ID: APS-112-45.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-16 | Date Collected: | 11/15/10 14:34 |
| Client ID: | APS-112-45.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | **135** | Q | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-19 | Date Collected: | 11/15/10 15:33 |
| Client ID: | APS-112-49.1-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 06:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 4.4 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 3.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 15 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 250 | E | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-19 Date Collected: 11/15/10 15:33

Client ID: APS-112-49.1-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 8.8 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-19 | Date Collected: | 11/15/10 15:33 |
| Client ID: | APS-112-49.1-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 2.2 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-19 D | Date Collected: | 11/15/10 15:33 |
| Client ID: | APS-112-49.1-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 07:43 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Trichloroethene | 210 | | ug/l | 5.0 | -- | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-20 | Date Collected: | 11/15/10 15:51 |
| Client ID: | APS-113-29.5-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 08:15 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-20 Date Collected: 11/15/10 15:51

Client ID: APS-113-29.5-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-20 | Date Collected: | 11/15/10 15:51 |
| Client ID: | APS-113-29.5-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-21 | Date Collected: | 11/15/10 16:21 |
| Client ID: | APS-113-35.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/16/10 23:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

Lab ID: L1018248-21 Date Collected: 11/15/10 16:21

Client ID: APS-113-35.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018248-21 | Date Collected: | 11/15/10 16:21 |
| Client ID: | APS-113-35.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/16/10 15:08
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-09,14-16,21 Batch: WG443428-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/16/10 15:08
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-09,14-16,21 Batch: WG443428-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/16/10 15:08
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-09,14-16,21 Batch: WG443428-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| D bromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 05:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 19-20 Batch: WG443453-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 05:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 19-20 Batch: WG443453-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018248

**Project Number:** 0114119 **Report Date:** 11/17/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 05:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 19-20 Batch: WG443453-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| D bromofluoromethane | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-09,14-16,21 Batch: WG443428-1 WG443428-2 | | | | | | | | |
| Methylene chloride | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 89 | | 86 | | 70-130 | 3 | | 20 |
| Chloroform | 93 | | 89 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 89 | | 74 | | 70-130 | 18 | | 20 |
| 1,2-Dichloropropane | 87 | | 83 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 91 | | 76 | | 70-130 | 18 | | 20 |
| 1,1,2-Trichloroethane | 90 | | 88 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 97 | | 92 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 88 | | 85 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 101 | | 90 | | 70-130 | 12 | | 20 |
| 1,2-Dichloroethane | 88 | | 85 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 84 | | 77 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 85 | | 78 | | 70-130 | 9 | | 20 |
| trans-1,3-Dichloropropene | 74 | | **66** | Q | 70-130 | 11 | | 20 |
| cis-1,3-Dichloropropene | 76 | | 70 | | 70-130 | 8 | | 20 |
| 1,1-Dichloropropene | 88 | | 85 | | 70-130 | 3 | | 20 |
| Bromoform | 98 | | 82 | | 70-130 | 18 | | 20 |
| 1,1,2,2-Tetrachloroethane | 95 | | 92 | | 70-130 | 3 | | 20 |
| Benzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| Toluene | 90 | | 85 | | 70-130 | 6 | | 20 |
| Ethylbenzene | 92 | | 88 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-09,14-16,21 Batch: WG443428-1 WG443428-2 | | | | | | | | |
| Chloromethane | 94 | | 90 | | 70-130 | 4 | | 20 |
| Bromomethane | 87 | | 84 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 103 | | 96 | | 70-130 | 7 | | 20 |
| Chloroethane | 92 | | 89 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 95 | | 89 | | 70-130 | 7 | | 20 |
| trans-1,2-Dichloroethene | 88 | | 85 | | 70-130 | 3 | | 20 |
| Trichloroethene | 90 | | 88 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 91 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 94 | | 90 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 92 | | 70-130 | 7 | | 20 |
| Methyl tert butyl ether | 79 | | 77 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 92 | | 88 | | 70-130 | 4 | | 20 |
| o-Xylene | 93 | | 90 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Dibromomethane | 101 | | 99 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 91 | | 70-130 | 8 | | 20 |
| Styrene | 90 | | 86 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 85 | | 80 | | 70-130 | 6 | | 20 |
| Acetone | 83 | | 81 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 79 | | 73 | | 70-130 | 8 | | 20 |
| 2-Butanone | 88 | | 88 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-09,14-16,21 Batch: WG443428-1 WG443428-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 84 | | 72 | | 70-130 | 15 | | 20 |
| 2-Hexanone | 80 | | 80 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| Tetrahydrofuran | 80 | | 81 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 88 | | 76 | | 70-130 | 15 | | 20 |
| 1,2-Dibromoethane | 93 | | 87 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 90 | | 88 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 83 | | 75 | | 70-130 | 10 | | 20 |
| Bromobenzene | 94 | | 90 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 75 | | 71 | | 70-130 | 5 | | 20 |
| sec-Butylbenzene | 92 | | 87 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 91 | | 86 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 92 | | 87 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 89 | | 85 | | 70-130 | 5 | | 20 |
| 1,2-Dibromo-3-chloropropane | 86 | | 75 | | 70-130 | 14 | | 20 |
| Hexachlorobutadiene | 87 | | 82 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 91 | | 86 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 96 | | 91 | | 70-130 | 5 | | 20 |
| Naphthalene | 80 | | 78 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 93 | | 89 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 81 | | 76 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-09,14-16,21 Batch: WG443428-1 WG443428-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 82 | | 77 | | 70-130 | 6 | | 20 |
| 1,3,5-Trimethylbenzene | 87 | | 83 | | 70-130 | 5 | | 20 |
| 1,2,4-Trimethylbenzene | 93 | | 86 | | 70-130 | 8 | | 20 |
| Ethyl ether | 89 | | 88 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 83 | | 79 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 77 | | 73 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 82 | | 79 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 99 | | 101 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 98 | | 70-130 |
| Toluene-d8 | 100 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 94 | | 70-130 |
| Dibromofluoromethane | 104 | | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| Methylene chloride | 86 | | 87 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 84 | | 82 | | 70-130 | 2 | | 20 |
| Chloroform | 88 | | 87 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 84 | | 78 | | 70-130 | 7 | | 20 |
| 1,2-Dichloropropane | 83 | | 83 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 84 | | 78 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 90 | | 86 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 86 | | 85 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 106 | | 87 | | 70-130 | 20 | | 20 |
| 1,2-Dichloroethane | 82 | | 83 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 80 | | 78 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 82 | | 80 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 71 | | **68** | Q | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 71 | | **69** | Q | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 84 | | 85 | | 70-130 | 1 | | 20 |
| Bromoform | 88 | | 83 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 88 | | 89 | | 70-130 | 1 | | 20 |
| Benzene | 87 | | 88 | | 70-130 | 1 | | 20 |
| Toluene | 86 | | 87 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 88 | | 89 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| Chloromethane | 88 | | 86 | | 70-130 | 2 | | 20 |
| Bromomethane | 89 | | 87 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 95 | | 94 | | 70-130 | 1 | | 20 |
| Chloroethane | 86 | | 85 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 88 | | 88 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 84 | | 83 | | 70-130 | 1 | | 20 |
| Trichloroethene | 86 | | 86 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 74 | | 74 | | 70-130 | 0 | | 20 |
| p/m-Xylene | 90 | | 89 | | 70-130 | 1 | | 20 |
| o-Xylene | 91 | | 89 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Dibromomethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 89 | | 70-130 | 0 | | 20 |
| Styrene | 86 | | 86 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 82 | | 81 | | 70-130 | 1 | | 20 |
| Acetone | 88 | | 82 | | 70-130 | 7 | | 20 |
| Carbon disulfide | 88 | | 83 | | 70-130 | 6 | | 20 |
| 2-Butanone | 79 | | 83 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 75 | | 79 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 79 | | 78 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 92 | | 93 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 79 | | 72 | | 70-130 | 9 | | 20 |
| 2,2-Dichloropropane | 82 | | 80 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 84 | | 86 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 81 | | 79 | | 70-130 | 3 | | 20 |
| Bromobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 73 | | 73 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 90 | | 90 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 89 | | 87 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 86 | | 86 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 81 | | 76 | | 70-130 | 6 | | 20 |
| Hexachlorobutadiene | 88 | | 87 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 88 | | 87 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Naphthalene | 77 | | 81 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 79 | | 83 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 79 | | 82 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 85 | | 84 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Ethyl ether | 86 | | 82 | | 70-130 | 5 | | 20 |
| Isopropyl Ether | 79 | | 78 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 72 | | 71 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 77 | | 77 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 112 | | 114 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 93 | | 70-130 |
| Toluene-d8 | 100 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 96 | | 70-130 |
| Dibromofluoromethane | 100 | | 100 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018248-01A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-01B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-02A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-02B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-03A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-03B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-04A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-04B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-05A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-05B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-06A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-06B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-07A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-07B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-08A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-08B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-09A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-09B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-10A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-10B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-11A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-11B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-12A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-12B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-13A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-13B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-14A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018248
**Report Date:** 11/17/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018248-14B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-15A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-15B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-16A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-16B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-17A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-17B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-18A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-18B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | HOLD(14) |
| L1018248-19A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-19B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-20A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-20B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-21A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018248-21B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018248 |
| **Project Number:** | 0114119 | **Report Date:** | 11/17/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018248 |
| **Project Number:** | 0114119 | **Report Date:** | 11/17/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018248
**Project Number:** 0114119 **Report Date:** 11/17/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:11171012:08

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/15/10

ALPHA Job #: L1018249

## Client Information

Client: ERM

Address: 399 Boylston St. Boston MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: J. FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.

Date Due: 11/17/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 189018 1 | APS-110-59.8-20101115-01 | 11/15/10 | 0813 | GW | LJM | 2 | | |
| 2 | APS-110-65.0-20101115-01 | 11/15/10 | 0855 | | | | | |
| 3 | APS-111-54.6-20101115-01 | 11/15/10 | 0911 | | | | | |
| 4 | APS-111-49.0-20101115-01 | 11/15/10 | 0829 | | | | | |
| 5 | APS-111-63.75-20101115-01 | 11/15/10 | 0957 | | | | | |
| 6 | APS-110-69.8-20101115-01 | 11/15/10 | 0932 | | | | | |
| 7 | APS-110-74.0-20101115-01 | 11/15/10 | 1051 | | | | | |
| 8 | APS-111-71.0-20101115-01 | 11/15/10 | 1124 | | | | | |
| 9 | APS-111-82.4-20101115-01 | 11/15/10 | 1227 | | | | | |
| 10 | EB-12-20101115-01 | 11/15/10 | 1120 | | | | | |

HOLD KJ 11/17/10

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 1636 11/15/10 | [illegible] | 11/15/10 1636 |
| [illegible] | 11-17-10 1730 | [illegible] | 11/15/10 17[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11171012:08

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/16/10

ALPHA Job #: L1018248

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: ~~WAYLAND~~ RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr.

Date Due: 11/17/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8248 11 | APS-112-29.6-20101115-01 | 11/15/10 | 1241 | GW | LJM | 2 | HOLD | |
| 12 | APS-112-35.0-20101115-01 | 11/15/10 | 1356 | ↓ | ↓ | ↓ | HOLD | |
| 13 | EB-13-20101115-01 | 11/15/10 | 1350 | | | | * HOLD (KL) 11/16/10 | |
| 14 | APS-112-40.0-20101115-01 | 11/15/10 | 1354 | | | | | |
| 15 | APS-111-86.6-20101115-01 | 11/15/10 | 1318 | | | | | |
| 16 | APS-112-45.0-20101115-01 | 11/15/10 | 1439 | | | | | |
| 17 | APS-113-20.0-20101115-01 | 11/15/10 | 1434 | | | | HOLD | |
| 18 | APS-113-24.4-20101115-01 | 11/15/10 | 1515 | | | | HOLD | |
| 19 | APS-112-49.1-20101115-01 | 11/15/10 | 1533 | | | | | |
| 20 | APS-113-29.5-20101115-01 | 11/15/10 | 1551 | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VOA | | | | | | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 1636 11/15/10 | [signature] | 11/15/10 |
| [signature] | 11/15/10 17:30 | [signature] | |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/15/10

ALPHA Job #: L1018248

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon

Project Location: WAYLAND MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 11/17/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18248 2 | AP3-113-35.0-20101115-01 | 11/15/10 | 1621 | GW | LSM | 2 | | |

| | |
|---|---|
| Container Type | Vial |
| Preservation | HCl |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 1636 11/15/10 | [illegible] | 11/15/10 |
| [illegible] | 11/10/10 1730 | [illegible] | 11/16/10 [illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11171012:08

Serial_No:11171012:08

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/15/10

ALPHA Job #: L1018248

## Client Information

Client: ERM

Address: 399 Boylston St. Boston MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: J. FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.

Date Due: 11/17/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate In Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 18248 1 | APS-110-59.8-20101115-01 | 11/15/10 ~~0813~~ | 0813 | GW | LJM | 2 | | |
| 2 | APS-110-65.0-20101115-01 | 11/15/10 | 0855 | | | | | |
| 3 | APS-111-54.6-20101115-01 | 11/15/10 | 0911 | | | | | |
| 4 | APS-111-49.0-20101115-01 | 11/15/10 | 0829 | | | | | |
| 5 | APS-111-63.75-20101115-01 | 11/15/10 | 0957 | | | | | |
| 6 | APS-110-69.8-20101115-01 | 11/15/10 | 0932 | | | | | |
| 7 | APS-110-74.0-20101115-01 | 11/15/10 | 1051 | | | | | |
| 8 | APS-111-71.0-20101115-01 | 11/15/10 | 1124 | | | | | |
| 9 | APS-111-82.4-20101115-01 | 11/15/10 | 1227 | | | | | |
| 10 | EB-12-20101115-01 | 11/15/10 | 1120 | | | | | |

Container Type: Vial

Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 1636 11/15/10 | [illegible] | 11/15/10 1630 |
| [illegible] | 11-15-10 1730 | [illegible] | 11/15/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11171012:08

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/15/10

ALPHA Job #: L1018248

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: ~~WAYLAND~~ RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.
Date Due: 11/17/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8248 11 | APS-112-29.6-20101115-01 | 11/15/10 | 1241 | GW | LJM | 2 | HOLD | |
| 12 | APS-112-35.0-20101115-01 | 11/15/10 | 1316 | ↓ | ↓ | ↓ | HOLD | |
| 13 | EB-13-20101115-01 | 11/15/10 | 1350 | | | | | |
| 14 | APS-112-40.0-20101115-01 | 11/15/10 | 1354 | | | | | |
| 15 | APS-111-86.6-20101115-01 | 11/15/10 | 1318 | | | | | |
| 16 | APS-112-45.0-20101115-01 | 11/15/10 | 1439 | | | | | |
| 17 | APS-113-20.0-20101115-01 | 11/15/10 | 1434 | | | | HOLD | |
| 18 | APS-113-24.4-20101115-01 | 11/15/10 | 1515 | | | | HOLD | |
| 19 | APS-112-49.1-20101115-01 | 11/15/10 | 1533 | | | | | |
| 20 | APS-113-29.5-20101115-01 | 11/15/10 | 1551 | | | | | |

Container Type: VOA
Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 1636 11/15/10 | [signature] | 11/15/10 1730 |
| [signature] | 11/15/10 1730 | [signature] | |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11171012:08

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/15/10

ALPHA Job #: L1018248

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYthcon
Project Location: WAYLAND MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 11/17/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8248 2 | AB-113-35.0-20101115-01 | 11/15/10 | 1621 | GW | LSM | 2 | | |

| | |
|---|---|
| Container Type | ~~VOA~~ VOA |
| Preservative | HCl |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 1636 11/15/10 | [illegible] | 11/15/10 |
| [illegible] | 11/16/10 1730 | [illegible] | 11/16/10 [illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018248

Instrument ID: Quimby.i  Calibration Date: 17-NOV-2010  Time: 05:06

Lab File ID: 1117A03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .34521 | .1 | 18 | 20 | |
| chloromethane | .62163 | .54523 | .1 | 12 | 20 | |
| vinyl chloride | .4285 | .40804 | .1 | 5 | 20 | |
| bromomethane | .32572 | .28923 | .1 | 11 | 20 | |
| chloroethane | .35035 | .29947 | .1 | 15 | 20 | |
| trichlorofluoromethane | .6241 | .65849 | .1 | -6 | 20 | |
| ethyl ether | .13811 | .11898 | .05 | 14 | 20 | |
| acetone | 100 | 87.698 | .1 | 12 | 20 | |
| 1,1,-dichloroethene | .31495 | .2785 | .1 | 12 | 20 | |
| methylene chloride | .34246 | .29584 | .1 | 14 | 20 | |
| carbon disulfide | .90993 | .79603 | .1 | 13 | 20 | |
| methyl tert butyl ether | .48005 | .35603 | .1 | 26 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .30473 | .1 | 16 | 20 | |
| Diisopropyl Ether | 1.1682 | .92598 | .05 | 21 | 20 | F |
| 1,1-dichloroethane | .70419 | .59225 | .2 | 16 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .52532 | .05 | 28 | 20 | F |
| 2-butanone | .06714 | .0533 | .1 | 21 | 20 | F |
| 2,2-dichloropropane | .34238 | .2826 | .05 | 17 | 20 | |
| cis-1,2-dichloroethene | .37932 | .35304 | .1 | 7 | 20 | |
| chloroform | .61594 | .54221 | .2 | 12 | 20 | |
| bromochloromethane | .12887 | .11872 | .05 | 8 | 20 | |
| tetrahydrofuran | .04454 | .03524 | .05 | 21 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .39359 | .1 | 20 | 20 | F |
| 1,1-dichloropropene | .52258 | .44048 | .05 | 16 | 20 | |
| carbontetrachloride | .35402 | .29638 | .1 | 16 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .35983 | .05 | 23 | 20 | F |
| 1,2-dichloroethane | .39579 | .32389 | .1 | 18 | 20 | |
| benzene | 1.5397 | 1.3369 | .5 | 13 | 20 | |
| trichloroethene | .37211 | .3206 | .2 | 14 | 20 | |
| 1,2-dichloropropane | .35603 | .2969 | .1 | 17 | 20 | |
| bromodichloromethane | .35384 | .28936 | .2 | 18 | 20 | |
| 1,4-dioxane | .00109 | .00123 | .05 | -12 | 20 | F |
| dibromomethane | .12703 | .12182 | .05 | 4 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03624 | .1 | 25 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .2941 | .2 | 29 | 20 | F |
| toluene | 1.2794 | 1.1067 | .4 | 14 | 20 | |
| trans-1,3-dichloropropene | .38217 | .26998 | .1 | 29 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .19594 | .1 | 10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018248

Instrument ID: Quimby.i  Calibration Date: 17-NOV-2010  Time: 05:06

Lab File ID: 1117A03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09935 | .1 | 21 | 20 | F |
| 1,3-dichloropropane | .48008 | .40796 | .05 | 15 | 20 | |
| tetrachloroethene | .50656 | .47895 | .2 | 5 | 20 | |
| chlorodibromomethane | .22898 | .19355 | .1 | 15 | 20 | |
| 1,2-dibromoethane | .21845 | .18469 | .1 | 15 | 20 | |
| chlorobenzene | 1.3784 | 1.1877 | .5 | 14 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .27612 | .05 | 19 | 20 | |
| ethyl benzene | 2.6402 | 2.3291 | .1 | 12 | 20 | |
| p/m xylene | 1.0415 | .93248 | .1 | 10 | 20 | |
| o xylene | .99264 | .89988 | .3 | 9 | 20 | |
| styrene | 1.5901 | 1.3647 | .31 | 14 | 20 | |
| isopropylbenzene | 2.7063 | 2.3795 | .1 | 12 | 20 | |
| bromoform | .16937 | .14859 | .1 | 12 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .40398 | .3 | 12 | 20 | |
| 1,2,3-trichloropropane | .359 | .31812 | .05 | 11 | 20 | |
| n-propylbenzene | 5.3817 | 4.9485 | .05 | 8 | 20 | |
| bromobenzene | .8701 | .81534 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.1610 | .05 | 15 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.2037 | .05 | 11 | 20 | |
| 4-chorotoluene | 3.3404 | 2.8604 | .05 | 14 | 20 | |
| tert-butylbenzene | 3.0713 | 2.7666 | .05 | 10 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.2853 | .05 | 12 | 20 | |
| sec-butylbenzene | 4.6047 | 4.2115 | .05 | 9 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.3913 | .05 | 5 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.6862 | .6 | 10 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.6799 | .5 | 6 | 20 | |
| n-butylbenzene | 4.0323 | 2.9593 | .05 | 27 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4296 | .4 | 9 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 81.060 | .05 | 19 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .63614 | .2 | 21 | 20 | F |
| hexachlorobutadiene | .39925 | .3513 | .05 | 12 | 20 | |
| naphthalene | 1.1650 | .90111 | .05 | 23 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .47011 | .05 | 21 | 20 | F |
| dibromofluoromethane | .2204 | .21937 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21153 | .05 | 6 | 20 | |
| toluene-d8 | 1.2994 | 1.3011 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | .89239 | .84867 | .05 | 5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018248

Instrument ID: Quimby.i  Calibration Date: 16-NOV-2010  Time: 14:37

Lab File ID: 1116N03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .35617 | .1 | 15 | 20 | |
| chloromethane | .62163 | .58251 | .1 | 6 | 20 | |
| vinyl chloride | .4285 | .44285 | .1 | -3 | 20 | |
| bromomethane | .32572 | .28429 | .1 | 13 | 20 | |
| chloroethane | .35035 | .32338 | .1 | 8 | 20 | |
| trichlorofluoromethane | .6241 | .63084 | .1 | -1 | 20 | |
| ethyl ether | .13811 | .12334 | .05 | 11 | 20 | |
| acetone | 100 | 82.942 | .1 | 17 | 20 | |
| 1,1,-dichloroethene | .31495 | .29915 | .1 | 5 | 20 | |
| methylene chloride | .34246 | .32301 | .1 | 6 | 20 | |
| carbon disulfide | .90993 | .72226 | .1 | 21 | 20 | F |
| methyl tert butyl ether | .48005 | .37906 | .1 | 21 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .32071 | .1 | 12 | 20 | |
| Diisopropyl Ether | 1.1682 | .96805 | .05 | 17 | 20 | |
| 1,1-dichloroethane | .70419 | .62635 | .2 | 11 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .5588 | .05 | 23 | 20 | F |
| 2-butanone | .06714 | .05902 | .1 | 12 | 20 | F |
| 2,2-dichloropropane | .34238 | .30071 | .05 | 12 | 20 | |
| cis-1,2-dichloroethene | .37932 | .3579 | .1 | 6 | 20 | |
| chloroform | .61594 | .57298 | .2 | 7 | 20 | |
| bromochloromethane | .12887 | .12738 | .05 | 1 | 20 | |
| tetrahydrofuran | .04454 | .03545 | .05 | 20 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .41271 | .1 | 16 | 20 | |
| 1,1-dichloropropene | .52258 | .45864 | .05 | 12 | 20 | |
| carbontetrachloride | .35402 | .31396 | .1 | 11 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .3823 | .05 | 18 | 20 | |
| 1,2-dichloroethane | .39579 | .34816 | .1 | 12 | 20 | |
| benzene | 1.5397 | 1.4311 | .5 | 7 | 20 | |
| trichloroethene | .37211 | .33594 | .2 | 10 | 20 | |
| 1,2-dichloropropane | .35603 | .31007 | .1 | 13 | 20 | |
| bromodichloromethane | .35384 | .30195 | .2 | 15 | 20 | |
| 1,4-dioxane | .00109 | .00108 | .05 | 1 | 20 | F |
| dibromomethane | .12703 | .12851 | .05 | -1 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04083 | .1 | 15 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .31559 | .2 | 24 | 20 | F |
| toluene | 1.2794 | 1.1509 | .4 | 10 | 20 | |
| trans-1,3-dichloropropene | .38217 | .28437 | .1 | 26 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .19517 | .1 | 10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018248

Instrument ID: Quimby.i  Calibration Date: 16-NOV-2010  Time: 14:37

Lab File ID: 1116N03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10044 | .1 | 20 | 20 | F |
| 1,3-dichloropropane | .48008 | .43337 | .05 | 10 | 20 | |
| tetrachloroethene | .50656 | .48911 | .2 | 3 | 20 | |
| chlorodibromomethane | .22898 | .20752 | .1 | 9 | 20 | |
| 1,2-dibromoethane | .21845 | .2031 | .1 | 7 | 20 | |
| chlorobenzene | 1.3784 | 1.2134 | .5 | 12 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .28231 | .05 | 17 | 20 | |
| ethyl benzene | 2.6402 | 2.4199 | .1 | 8 | 20 | |
| p/m xylene | 1.0415 | .95503 | .1 | 8 | 20 | |
| o xylene | .99264 | .9239 | .3 | 7 | 20 | |
| styrene | 1.5901 | 1.4263 | .31 | 10 | 20 | |
| isopropylbenzene | 2.7063 | 2.4520 | .1 | 9 | 20 | |
| bromoform | .16937 | .16508 | .1 | 3 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .43563 | .3 | 5 | 20 | |
| 1,2,3-trichloropropane | .359 | .35459 | .05 | 1 | 20 | |
| n-propylbenzene | 5.3817 | 5.0033 | .05 | 7 | 20 | |
| bromobenzene | .8701 | .81759 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.2589 | .05 | 13 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3082 | .05 | 8 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9842 | .05 | 11 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8080 | .05 | 9 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4862 | .05 | 7 | 20 | |
| sec-butylbenzene | 4.6047 | 4.2539 | .05 | 8 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.4140 | .05 | 4 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.7523 | .6 | 7 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7656 | .5 | 1 | 20 | |
| n-butylbenzene | 4.0323 | 3.0278 | .05 | 25 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4957 | .4 | 5 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 85.790 | .05 | 14 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .66046 | .2 | 18 | 20 | |
| hexachlorobutadiene | .39925 | .34799 | .05 | 13 | 20 | |
| naphthalene | 1.1650 | .93723 | .05 | 20 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .48161 | .05 | 19 | 20 | |
| dibromofluoromethane | .2204 | .2284 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .22185 | .05 | 2 | 20 | |
| toluene-d8 | 1.2994 | 1.2989 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | .89239 | .86197 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018323 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/18/10 |

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018323-01 | APS-112-69.2-20101115-01 | WAYLAND, MA | 11/15/10 16:56 |
| L1018323-02 | APS-113-40.0-20101115-01 | WAYLAND, MA | 11/15/10 16:51 |
| L1018323-03 | APS-113-44.8-20101116-01 | WAYLAND, MA | 11/16/10 08:21 |
| L1018323-04 | APS-113-50.1-20101116-01 | WAYLAND, MA | 11/16/10 09:05 |
| L1018323-05 | APS-112-74.1-20101116-01 | WAYLAND, MA | 11/16/10 08:28 |
| L1018323-06 | APS-114-25.0-20101116-01 | WAYLAND, MA | 11/16/10 10:48 |
| L1018323-07 | APS-114-20.0-20101116-01 | WAYLAND, MA | 11/16/10 10:06 |
| L1018323-08 | EB-14-20101116-01 | WAYLAND, MA | 11/16/10 09:30 |
| L1018323-09 | APS-113-55.0-20101116-01 | WAYLAND, MA | 11/16/10 09:43 |
| L1018323-10 | EB-15-20101116-01 | WAYLAND, MA | 11/16/10 10:27 |
| L1018323-11 | APS-115-20.0-20101116-01 | WAYLAND, MA | 11/16/10 11:17 |
| L1018323-12 | APS-114-30.0-20101116-01 | WAYLAND, MA | 11/16/10 11:26 |
| L1018323-13 | APS-115-25.2-20101116-01 | WAYLAND, MA | 11/16/10 11:54 |
| L1018323-14 | APS-114-35.0-20101116-01 | WAYLAND, MA | 11/16/10 12:04 |
| L1018323-15 | APS-114-40.0-20101116-01 | WAYLAND, MA | 11/16/10 12:43 |
| L1018323-16 | APS-115-38.8-20101116-01 | WAYLAND, MA | 11/16/10 13:17 |
| L1018323-17 | APS-115-30.1-20101116-01 | WAYLAND, MA | 11/16/10 12:33 |
| L1018323-18 | APS-114-45.0-20101116-01 | WAYLAND, MA | 11/16/10 13:42 |
| L1018323-19 | APS-115-43.5-20101116-01 | WAYLAND, MA | 11/16/10 13:59 |
| L1018323-20 | APS-114-50.0-20101116-01 | WAYLAND, MA | 11/16/10 14:31 |
| L1018323-21 | APS-114-55.0-20101116-01 | WAYLAND, MA | 11/16/10 15:25 |
| L1018323-22 | APS-115-48.4-20101116-01 | WAYLAND, MA | 11/16/10 14:46 |
| L1018323-23 | APS-115-52.3-20101116-01 | WAYLAND, MA | 11/16/10 15:46 |
| L1018323-24 | APS-114-60.0-20101116-01 | WAYLAND, MA | 11/16/10 16:12 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018323
**Project Number:** 0114119 **Report Date:** 11/18/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Volatile Organics

L1018323-23: The pH of the sample was greater than two; however, sample was analyzed within the method required holding time.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG443453-2 LCSD recoveries, associated with L1018323-02, are below the individual acceptance criteria for trans-1,3-Dichloropropene (68%) and cis-1,3-Dichloropropene (69%), but within the overall method allowances. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG443660-1 LCS recovery, associated with L1018323-03 through -07, -09 and -11 through -23, is

**Project Name:** RAYTHEON **Lab Number:** L1018323
**Project Number:** 0114119 **Report Date:** 11/18/10

**Case Narrative (continued)**

below the individual acceptance criteria for trans-1,3-Dichloropropene (67%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The initial calibration, associated with L1018323-01 through -07, -09 and -11 through -24, did not meet the method required minimum response factors for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The continuing calibration standards, associated with L1018323-01 through -07, -09 and -11 through -24, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/18/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-01 | Date Collected: | 11/15/10 16:56 |
| Client ID: | APS-112-69.2-20101115-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 07:04 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 57 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-01 Date Collected: 11/15/10 16:56

Client ID: APS-112-69.2-20101115-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 19 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-01 | Date Collected: | 11/15/10 16:56 |
| Client ID: | APS-112-69.2-20101115-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-02 | Date Collected: | 11/15/10 16:51 |
| Client ID: | APS-113-40.0-20101115-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 12:27 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-02 Date Collected: 11/15/10 16:51

Client ID: APS-113-40.0-20101115-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-02 | Date Collected: | 11/15/10 16:51 |
| Client ID: | APS-113-40.0-20101115-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-03 | Date Collected: | 11/16/10 08:21 |
| Client ID: | APS-113-44.8-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 16:05 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-03 Date Collected: 11/16/10 08:21

Client ID: APS-113-44.8-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-03 | Date Collected: | 11/16/10 08:21 |
| Client ID: | APS-113-44.8-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-04 | Date Collected: | 11/16/10 09:05 |
| Client ID: | APS-113-50.1-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 16:37 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-04 Date Collected: 11/16/10 09:05

Client ID: APS-113-50.1-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-04 | Date Collected: | 11/16/10 09:05 |
| Client ID: | APS-113-50.1-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-05 | Date Collected: | 11/16/10 08:28 |
| Client ID: | APS-112-74.1-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 17:08 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 98 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-05 Date Collected: 11/16/10 08:28

Client ID: APS-112-74.1-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 14 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-05 | Date Collected: | 11/16/10 08:28 |
| Client ID: | APS-112-74.1-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-06 | Date Collected: | 11/16/10 10:48 |
| Client ID: | APS-114-25.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 17:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-06 Date Collected: 11/16/10 10:48

Client ID: APS-114-25.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-06 | Date Collected: | 11/16/10 10:48 |
| Client ID: | APS-114-25.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-07 | Date Collected: | 11/16/10 10:06 |
| Client ID: | APS-114-20.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 18:12 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-07 Date Collected: 11/16/10 10:06

Client ID: APS-114-20.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-07 | Date Collected: | 11/16/10 10:06 |
| Client ID: | APS-114-20.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-09 | Date Collected: | 11/16/10 09:43 |
| Client ID: | APS-113-55.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 18:43 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 3.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 18 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-09 Date Collected: 11/16/10 09:43

Client ID: APS-113-55.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 2.8 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-09 | Date Collected: | 11/16/10 09:43 |
| Client ID: | APS-113-55.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-11 | Date Collected: | 11/16/10 11:17 |
| Client ID: | APS-115-20.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 19:15 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-11 Date Collected: 11/16/10 11:17

Client ID: APS-115-20.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-11 | Date Collected: | 11/16/10 11:17 |
| Client ID: | APS-115-20.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-12 | Date Collected: | 11/16/10 11:26 |
| Client ID: | APS-114-30.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 19:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-12 Date Collected: 11/16/10 11:26

Client ID: APS-114-30.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-12 | Date Collected: | 11/16/10 11:26 |
| Client ID: | APS-114-30.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-13 | Date Collected: | 11/16/10 11:54 |
| Client ID: | APS-115-25.2-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 20:18 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-13 Date Collected: 11/16/10 11:54

Client ID: APS-115-25.2-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-13 | Date Collected: | 11/16/10 11:54 |
| Client ID: | APS-115-25.2-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-14 | Date Collected: | 11/16/10 12:04 |
| Client ID: | APS-114-35.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 20:50 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-14 Date Collected: 11/16/10 12:04

Client ID: APS-114-35.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 9.7 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-14 | Date Collected: | 11/16/10 12:04 |
| Client ID: | APS-114-35.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-15 | Date Collected: | 11/16/10 12:43 |
| Client ID: | APS-114-40.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 21:21 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-15 Date Collected: 11/16/10 12:43

Client ID: APS-114-40.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 3.0 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-15 | Date Collected: | 11/16/10 12:43 |
| Client ID: | APS-114-40.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-16 | Date Collected: | 11/16/10 13:17 |
| Client ID: | APS-115-38.8-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 21:53 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-16 Date Collected: 11/16/10 13:17

Client ID: APS-115-38.8-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 18 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-16 | Date Collected: | 11/16/10 13:17 |
| Client ID: | APS-115-38.8-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-17 | Date Collected: | 11/16/10 12:33 |
| Client ID: | APS-115-30.1-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 22:25 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-17 Date Collected: 11/16/10 12:33

Client ID: APS-115-30.1-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-17 | Date Collected: | 11/16/10 12:33 |
| Client ID: | APS-115-30.1-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-18 | Date Collected: | 11/16/10 13:42 |
| Client ID: | APS-114-45.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 22:56 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-18 Date Collected: 11/16/10 13:42

Client ID: APS-114-45.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 52 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-18 | Date Collected: | 11/16/10 13:42 |
| Client ID: | APS-114-45.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 12 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-19 | Date Collected: | 11/16/10 13:59 |
| Client ID: | APS-115-43.5-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 23:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 3.8 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 13 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-19 Date Collected: 11/16/10 13:59

Client ID: APS-115-43.5-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 9.4 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-19 | Date Collected: | 11/16/10 13:59 |
| Client ID: | APS-115-43.5-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-20 | Date Collected: | 11/16/10 14:31 |
| Client ID: | APS-114-50.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/17/10 23:59 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-20 Date Collected: 11/16/10 14:31

Client ID: APS-114-50.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 40 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-20 | Date Collected: | 11/16/10 14:31 |
| Client ID: | APS-114-50.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 9.6 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-21 | Date Collected: | 11/16/10 15:25 |
| Client ID: | APS-114-55.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 00:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 9.0 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-21 Date Collected: 11/16/10 15:25

Client ID: APS-114-55.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 2.0 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-21 | Date Collected: | 11/16/10 15:25 |
| Client ID: | APS-114-55.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-22 | Date Collected: | 11/16/10 14:46 |
| Client ID: | APS-115-48.4-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 01:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 5.4 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 22 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-22 Date Collected: 11/16/10 14:46

Client ID: APS-115-48.4-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 37 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-22 | Date Collected: | 11/16/10 14:46 |
| Client ID: | APS-115-48.4-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 7.6 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-23 | Date Collected: | 11/16/10 15:46 |
| Client ID: | APS-115-52.3-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 01:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 5.2 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 10 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 80 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-23 Date Collected: 11/16/10 15:46

Client ID: APS-115-52.3-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 3.8 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-23 | Date Collected: | 11/16/10 15:46 |
| Client ID: | APS-115-52.3-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-24 | Date Collected: | 11/16/10 16:12 |
| Client ID: | APS-114-60.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 07:35 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 2.8 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 3.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 22 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

Lab ID: L1018323-24 Date Collected: 11/16/10 16:12

Client ID: APS-114-60.0-20101116-01 Date Received: 11/16/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 66 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018323-24 | Date Collected: | 11/16/10 16:12 |
| Client ID: | APS-114-60.0-20101116-01 | Date Received: | 11/16/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 14 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 05:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG443453-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 05:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG443453-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 05:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG443453-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| D bromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 15:33
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-07,09,11-23 Batch: WG443660-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 15:33
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-07,09,11-23 Batch: WG443660-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/17/10 15:33
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-07,09,11-23 Batch: WG443660-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| D bromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/18/10 06:32
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,24 Batch: WG443689-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/18/10 06:32
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,24 Batch: WG443689-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018323

**Project Number:** 0114119 **Report Date:** 11/18/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/18/10 06:32
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,24 Batch: WG443689-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| D bromofluoromethane | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| Methylene chloride | 86 | | 87 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 84 | | 82 | | 70-130 | 2 | | 20 |
| Chloroform | 88 | | 87 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 84 | | 78 | | 70-130 | 7 | | 20 |
| 1,2-Dichloropropane | 83 | | 83 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 84 | | 78 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 90 | | 86 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 86 | | 85 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 106 | | 87 | | 70-130 | 20 | | 20 |
| 1,2-Dichloroethane | 82 | | 83 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 80 | | 78 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 82 | | 80 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 71 | | **68** | Q | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 71 | | **69** | Q | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 84 | | 85 | | 70-130 | 1 | | 20 |
| Bromoform | 88 | | 83 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 88 | | 89 | | 70-130 | 1 | | 20 |
| Benzene | 87 | | 88 | | 70-130 | 1 | | 20 |
| Toluene | 86 | | 87 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 88 | | 89 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| Chloromethane | 88 | | 86 | | 70-130 | 2 | | 20 |
| Bromomethane | 89 | | 87 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 95 | | 94 | | 70-130 | 1 | | 20 |
| Chloroethane | 86 | | 85 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 88 | | 88 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 84 | | 83 | | 70-130 | 1 | | 20 |
| Trichloroethene | 86 | | 86 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 74 | | 74 | | 70-130 | 0 | | 20 |
| p/m-Xylene | 90 | | 89 | | 70-130 | 1 | | 20 |
| o-Xylene | 91 | | 89 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Dibromomethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 89 | | 70-130 | 0 | | 20 |
| Styrene | 86 | | 86 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 82 | | 81 | | 70-130 | 1 | | 20 |
| Acetone | 88 | | 82 | | 70-130 | 7 | | 20 |
| Carbon disulfide | 88 | | 83 | | 70-130 | 6 | | 20 |
| 2-Butanone | 79 | | 83 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 75 | | 79 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 79 | | 78 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 92 | | 93 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 79 | | 72 | | 70-130 | 9 | | 20 |
| 2,2-Dichloropropane | 82 | | 80 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 84 | | 86 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 81 | | 79 | | 70-130 | 3 | | 20 |
| Bromobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 73 | | 73 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 90 | | 90 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 89 | | 87 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 86 | | 86 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 81 | | 76 | | 70-130 | 6 | | 20 |
| Hexachlorobutadiene | 88 | | 87 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 88 | | 87 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Naphthalene | 77 | | 81 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 79 | | 83 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG443453-1 WG443453-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 79 | | 82 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 85 | | 84 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Ethyl ether | 86 | | 82 | | 70-130 | 5 | | 20 |
| Isopropyl Ether | 79 | | 78 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 72 | | 71 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 77 | | 77 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 112 | | 114 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 93 | | 70-130 |
| Toluene-d8 | 100 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 96 | | 70-130 |
| Dibromofluoromethane | 100 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-07,09,11-23 Batch: WG443660-1 WG443660-2 | | | | | | | | |
| Methylene chloride | 89 | | 92 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 85 | | 88 | | 70-130 | 3 | | 20 |
| Chloroform | 91 | | 91 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 81 | | 85 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 85 | | 88 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 79 | | 89 | | 70-130 | 12 | | 20 |
| 1,1,2-Trichloroethane | 92 | | 94 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 96 | | 99 | | 70-130 | 3 | | 20 |
| Chlorobenzene | 90 | | 90 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 90 | | 100 | | 70-130 | 11 | | 20 |
| 1,2-Dichloroethane | 86 | | 89 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 79 | | 84 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 80 | | 84 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | **67** | Q | 74 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 70 | | 73 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 86 | | 87 | | 70-130 | 1 | | 20 |
| Bromoform | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| Benzene | 89 | | 92 | | 70-130 | 3 | | 20 |
| Toluene | 89 | | 89 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-07,09,11-23 Batch: WG443660-1 WG443660-2 | | | | | | | | |
| Chloromethane | 88 | | 92 | | 70-130 | 4 | | 20 |
| Bromomethane | 80 | | 84 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 98 | | 100 | | 70-130 | 2 | | 20 |
| Chloroethane | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethene | 90 | | 91 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 88 | | 87 | | 70-130 | 1 | | 20 |
| Trichloroethene | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 98 | | 97 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 95 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 102 | | 99 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 81 | | 79 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 93 | | 93 | | 70-130 | 0 | | 20 |
| o-Xylene | 96 | | 93 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 93 | | 95 | | 70-130 | 2 | | 20 |
| Dibromomethane | 97 | | 103 | | 70-130 | 6 | | 20 |
| 1,2,3-Trichloropropane | 97 | | 94 | | 70-130 | 3 | | 20 |
| Styrene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Dichlorodifluoromethane | 85 | | 87 | | 70-130 | 2 | | 20 |
| Acetone | 82 | | 85 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 81 | | 85 | | 70-130 | 5 | | 20 |
| 2-Butanone | 84 | | 85 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-07,09,11-23 Batch: WG443660-1 WG443660-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 75 | | 83 | | 70-130 | 10 | | 20 |
| 2-Hexanone | 78 | | 85 | | 70-130 | 9 | | 20 |
| Bromochloromethane | 95 | | 96 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 82 | | 84 | | 70-130 | 2 | | 20 |
| 2,2-Dichloropropane | 80 | | 83 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 89 | | 95 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 90 | | 94 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 80 | | 84 | | 70-130 | 5 | | 20 |
| Bromobenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 78 | | 75 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 90 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 78 | | 84 | | 70-130 | 7 | | 20 |
| Hexachlorobutadiene | 91 | | 92 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 98 | | 70-130 | 2 | | 20 |
| Naphthalene | 89 | | 90 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 90 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-07,09,11-23 Batch: WG443660-1 WG443660-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 86 | | 89 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 89 | | 88 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |
| Ethyl ether | 94 | | 94 | | 70-130 | 0 | | 20 |
| Isopropyl Ether | 86 | | 82 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 80 | | 78 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 83 | | 81 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 118 | | 126 | | 70-130 | 7 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | | 99 | | 70-130 |
| Toluene-d8 | 99 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 93 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,24 Batch: WG443689-1 WG443689-2 | | | | | | | | |
| Methylene chloride | 93 | | 91 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 88 | | 84 | | 70-130 | 5 | | 20 |
| Chloroform | 91 | | 88 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,2-Dichloropropane | 88 | | 84 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 86 | | 87 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 94 | | 89 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 88 | | 86 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 94 | | 102 | | 70-130 | 8 | | 20 |
| 1,2-Dichloroethane | 86 | | 84 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 83 | | 83 | | 70-130 | 0 | | 20 |
| Bromodichloromethane | 85 | | 85 | | 70-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 70 | | 72 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 73 | | 73 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 88 | | 86 | | 70-130 | 2 | | 20 |
| Bromoform | 92 | | 93 | | 70-130 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 88 | | 70-130 | 9 | | 20 |
| Benzene | 91 | | 89 | | 70-130 | 2 | | 20 |
| Toluene | 89 | | 86 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,24 Batch: WG443689-1 WG443689-2 | | | | | | | | |
| Chloromethane | 95 | | 92 | | 70-130 | 3 | | 20 |
| Bromomethane | 86 | | 86 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 101 | | 99 | | 70-130 | 2 | | 20 |
| Chloroethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 93 | | 91 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 87 | | 87 | | 70-130 | 0 | | 20 |
| Trichloroethene | 90 | | 88 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 95 | | 90 | | 70-130 | 5 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 92 | | 70-130 | 6 | | 20 |
| Methyl tert butyl ether | 77 | | 74 | | 70-130 | 4 | | 20 |
| p/m-Xylene | 93 | | 89 | | 70-130 | 4 | | 20 |
| o-Xylene | 94 | | 90 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 96 | | 93 | | 70-130 | 3 | | 20 |
| Dibromomethane | 100 | | 101 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 88 | | 70-130 | 7 | | 20 |
| Styrene | 91 | | 86 | | 70-130 | 6 | | 20 |
| Dichlorodifluoromethane | 89 | | 84 | | 70-130 | 6 | | 20 |
| Acetone | 79 | | 76 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 85 | | 82 | | 70-130 | 4 | | 20 |
| 2-Butanone | 83 | | 87 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,24 Batch: WG443689-1 WG443689-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 79 | | 78 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 80 | | 79 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 95 | | 93 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 76 | | 80 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 86 | | 84 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 88 | | 86 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 85 | | 84 | | 70-130 | 1 | | 20 |
| Bromobenzene | 98 | | 94 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 75 | | 73 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 88 | | 86 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 89 | | 85 | | 70-130 | 5 | | 20 |
| 1,2-Dibromo-3-chloropropane | 74 | | 86 | | 70-130 | 15 | | 20 |
| Hexachlorobutadiene | 91 | | 88 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 90 | | 88 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 97 | | 94 | | 70-130 | 3 | | 20 |
| Naphthalene | 83 | | 80 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 93 | | 89 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 83 | | 82 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,24 Batch: WG443689-1 WG443689-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 80 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 88 | | 70-130 | 4 | | 20 |
| Ethyl ether | 89 | | 79 | | 70-130 | 12 | | 20 |
| Isopropyl Ether | 82 | | 78 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 77 | | 73 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 79 | | 76 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 110 | | 108 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 97 | | 70-130 |
| Toluene-d8 | 98 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 94 | | 70-130 |
| Dibromofluoromethane | 100 | | 101 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018323-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018323-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018323-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018323-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | HOLD(14) |
| L1018323-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018323
**Report Date:** 11/18/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018323-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-15A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-15B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-16A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-16B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-17A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-17B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-18A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-18B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-19A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-19B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-20A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-20B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-21A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-21B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-22A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-22B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-23A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-23B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-24A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018323-24B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018323 |
| **Project Number:** | 0114119 | **Report Date:** | 11/18/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018323 |
| **Project Number:** | 0114119 | **Report Date:** | 11/18/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018323
**Project Number:** 0114119 **Report Date:** 11/18/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/16/10

ALPHA Job #: L1018323

**Client Information**

Client: ERM

Address: 399 Boylston Street, Boston MA 02116

Phone: 1-617-646-7200

Fax: 1-617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!)

Date Due: 11/19/10 48hr. Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18323.1 | APS-112-69.2-20101115-01 | 11/15/10 | 1656 | GW | LJM | 2 | | |
| 2 | APS-113-40.0-20101115-01 | 11/15/10 | 1651 | | | | | |
| 3 | APS-113-44.8 LSM -20101116-01 | 11/16/10 | 0821 | | | | | |
| 4 | APS-113-50.1 LSM -20101116-01 | 11/16/10 | 0905 | | | | | |
| 5 | APS-112-74.1-20101116-01 | 11/16/10 | 0828 | | | | | |
| 6 | APS-114-25.0-20101116-01 | 11/16/10 | 1048 | | | | | |
| 7 | APS-114-20.0-20101116-01 | 11/16/10 | 1006 | | | | | |
| 8 | EB-14-20101116-01 | 11/16/10 | 0930 | | | | HOLD | |
| 9 | APS-113-55.0-20101116-01 | 11/16/10 | 0943 | | | | | |
| 10 | EB-15-20101116-01 | 11/16/10 | 1027 | | | | HOLD | |

Container Type: VIAL

Preservative: HCl

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/16/10 1620 | [signature] | 11/16/10 1620 |
| [signature] | 11-16-10 1715 | [signature] | 11/16/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/16/10

ALPHA Job #: L1018323

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr

Date Due: 11/18/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

**SAMPLE HANDLING**

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18323.11 | APS-115-20.0-20101116-01 | 11/16/10 | 1117 | GW | LJM | 2 | | |
| .12 | APS-114-30.0-20101116-01 | ↓ | 1126 | ↓ | ↓ | ↓ | | |
| .13 | APS-115-25.2-20101116-01 | | 1154 | | | | | |
| .14 | APS-114-35.0-20101116-01 | | 1204 | | | | | |
| .15 | APS-114-40.0-20101116-01 | | 1243 | | | | | |
| .16 | APS-115-38.8-20101116-01 | | 1317 | | | | | |
| .17 | APS-115-30.1-20101116-01 | | 1233 | | | | | |
| .18 | APS-114-45.0-20101116-01 | | 1342 | | | | | |
| .19 | APS-115-43.5-20101116-01 | | 1359 | | | | | |
| .20 | APS-114-50.0-20101116-01 | | 1431 | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/16/10 1620 | [signature] | 11/16/10 1620 |
| [signature] | 11/16/10 1715 | [signature] | 11/16/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 11/16/10

ALPHA Job #: L1018323

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial_No:11181013:11

## Client Information

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND

Project #: 0114119

Project Manager:

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 11/18/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18323, 21 | APS-114-55.0-20101116-01 | 11/16/10 | 1525 | GW | LSM | 2 | | |
| 22 | APS-115-48.4-20101116-01 | | 1446 | | | | | |
| 23 | APS-115-52.3-20101116-01 | | 1546 | | | | | |
| 24 | APS-114-60.0-20101116-01 | | 1612 | | | | | |

Container Type: VOA

Preservative: HCl

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/16/10 1620 | [signature] | 11/16/10 1620 |
| [signature] | 11/16/10 1715 | [signature] | 11/16/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018323

Instrument ID: Quimby.i  Calibration Date: 17-NOV-2010  Time: 14:30

Lab File ID: 1117N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .35767 | .1 | 15 | 20 | |
| chloromethane | .62163 | .54856 | .1 | 12 | 20 | |
| vinyl chloride | .4285 | .42215 | .1 | 1 | 20 | |
| bromomethane | .32572 | .26112 | .1 | 20 | 20 | |
| chloroethane | .35035 | .31073 | .1 | 11 | 20 | |
| trichlorofluoromethane | .6241 | .56347 | .1 | 10 | 20 | |
| ethyl ether | .13811 | .13012 | .05 | 6 | 20 | |
| acetone | 100 | 81.794 | .1 | 18 | 20 | |
| 1,1,-dichloroethene | .31495 | .28265 | .1 | 10 | 20 | |
| methylene chloride | .34246 | .30632 | .1 | 11 | 20 | |
| carbon disulfide | .90993 | .74108 | .1 | 19 | 20 | |
| methyl tert butyl ether | .48005 | .38826 | .1 | 19 | 20 | |
| trans-1,2-dichloroethene | .36264 | .31929 | .1 | 12 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0079 | .05 | 14 | 20 | |
| 1,1-dichloroethane | .70419 | .59923 | .2 | 15 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .58155 | .05 | 20 | 20 | F |
| 2-butanone | .06714 | .05647 | .1 | 16 | 20 | F |
| 2,2-dichloropropane | .34238 | .27483 | .05 | 20 | 20 | |
| cis-1,2-dichloroethene | .37932 | .3527 | .1 | 7 | 20 | |
| chloroform | .61594 | .55899 | .2 | 9 | 20 | |
| bromochloromethane | .12887 | .1225 | .05 | 5 | 20 | |
| tetrahydrofuran | .04454 | .0366 | .05 | 18 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .38928 | .1 | 21 | 20 | F |
| 1,1-dichloropropene | .52258 | .44882 | .05 | 14 | 20 | |
| carbontetrachloride | .35402 | .28578 | .1 | 19 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .38848 | .05 | 17 | 20 | |
| 1,2-dichloroethane | .39579 | .34019 | .1 | 14 | 20 | |
| benzene | 1.5397 | 1.3747 | .5 | 11 | 20 | |
| trichloroethene | .37211 | .32589 | .2 | 12 | 20 | |
| 1,2-dichloropropane | .35603 | .30245 | .1 | 15 | 20 | |
| bromodichloromethane | .35384 | .28344 | .2 | 20 | 20 | |
| 1,4-dioxane | .00109 | .00129 | .05 | -18 | 20 | F |
| dibromomethane | .12703 | .12266 | .05 | 3 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03632 | .1 | 25 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .29188 | .2 | 30 | 20 | F |
| toluene | 1.2794 | 1.1352 | .4 | 11 | 20 | |
| trans-1,3-dichloropropene | .38217 | .25757 | .1 | 33 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .1992 | .1 | 8 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018323

Instrument ID: Quimby.i  Calibration Date: 17-NOV-2010  Time: 14:30

Lab File ID: 1117N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09867 | .1 | 22 | 20 | F |
| 1,3-dichloropropane | .48008 | .43418 | .05 | 10 | 20 | |
| tetrachloroethene | .50656 | .4848 | .2 | 4 | 20 | |
| chlorodibromomethane | .22898 | .18065 | .1 | 21 | 20 | F |
| 1,2-dibromoethane | .21845 | .19453 | .1 | 11 | 20 | |
| chlorobenzene | 1.3784 | 1.2450 | .5 | 10 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .27097 | .05 | 20 | 20 | F |
| ethyl benzene | 2.6402 | 2.4452 | .1 | 7 | 20 | |
| p/m xylene | 1.0415 | .96612 | .1 | 7 | 20 | |
| o xylene | .99264 | .94941 | .3 | 4 | 20 | |
| styrene | 1.5901 | 1.5009 | .31 | 6 | 20 | |
| isopropylbenzene | 2.7063 | 2.4972 | .1 | 8 | 20 | |
| bromoform | .16937 | .15033 | .1 | 11 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .44001 | .3 | 4 | 20 | |
| 1,2,3-trichloropropane | .359 | .34882 | .05 | 3 | 20 | |
| n-propylbenzene | 5.3817 | 5.0826 | .05 | 6 | 20 | |
| bromobenzene | .8701 | .85368 | .05 | 2 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.3268 | .05 | 11 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3440 | .05 | 7 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9908 | .05 | 10 | 20 | |
| tert-butylbenzene | 3.0713 | 2.9278 | .05 | 5 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.5585 | .05 | 5 | 20 | |
| sec-butylbenzene | 4.6047 | 4.4090 | .05 | 4 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.587 | .05 | 0 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.8233 | .6 | 3 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.8320 | .5 | -2 | 20 | |
| n-butylbenzene | 4.0323 | 3.1335 | .05 | 22 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.5438 | .4 | 2 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 77.829 | .05 | 22 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .69122 | .2 | 14 | 20 | |
| hexachlorobutadiene | .39925 | .36321 | .05 | 9 | 20 | |
| naphthalene | 1.1650 | 1.0322 | .05 | 11 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .52621 | .05 | 12 | 20 | |
| dibromofluoromethane | .2204 | .2244 | .05 | -2 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .20956 | .05 | 7 | 20 | |
| toluene-d8 | 1.2994 | 1.2837 | .05 | 1 | 20 | |
| 4-bromofluorobenzene | .89239 | .83744 | .05 | 6 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018323

Instrument ID: Quimby.i  Calibration Date: 18-NOV-2010  Time: 05:29

Lab File ID: 1118A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 ccal  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .37349 | .1 | 11 | 20 | |
| chloromethane | .62163 | .59312 | .1 | 5 | 20 | |
| vinyl chloride | .4285 | .43403 | .1 | -1 | 20 | |
| bromomethane | .32572 | .28133 | .1 | 14 | 20 | |
| chloroethane | .35035 | .31432 | .1 | 10 | 20 | |
| trichlorofluoromethane | .6241 | .58465 | .1 | 6 | 20 | |
| ethyl ether | .13811 | .12313 | .05 | 11 | 20 | |
| acetone | 100 | 78.560 | .1 | 21 | 20 | F |
| 1,1,-dichloroethene | .31495 | .29415 | .1 | 7 | 20 | |
| methylene chloride | .34246 | .31802 | .1 | 7 | 20 | |
| carbon disulfide | .90993 | .77426 | .1 | 15 | 20 | |
| methyl tert butyl ether | .48005 | .36981 | .1 | 23 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .31507 | .1 | 13 | 20 | |
| Diisopropyl Ether | 1.1682 | .96129 | .05 | 18 | 20 | |
| 1,1-dichloroethane | .70419 | .61792 | .2 | 12 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .5639 | .05 | 23 | 20 | F |
| 2-butanone | .06714 | .05597 | .1 | 17 | 20 | F |
| 2,2-dichloropropane | .34238 | .29268 | .05 | 15 | 20 | |
| cis-1,2-dichloroethene | .37932 | .364 | .1 | 4 | 20 | |
| chloroform | .61594 | .558 | .2 | 9 | 20 | |
| bromochloromethane | .12887 | .12212 | .05 | 5 | 20 | |
| tetrahydrofuran | .04454 | .034 | .05 | 24 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .40724 | .1 | 17 | 20 | |
| 1,1-dichloropropene | .52258 | .46023 | .05 | 12 | 20 | |
| carbontetrachloride | .35402 | .29984 | .1 | 15 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .3688 | .05 | 21 | 20 | F |
| 1,2-dichloroethane | .39579 | .33994 | .1 | 14 | 20 | |
| benzene | 1.5397 | 1.3983 | .5 | 9 | 20 | |
| trichloroethene | .37211 | .33304 | .2 | 10 | 20 | |
| 1,2-dichloropropane | .35603 | .31354 | .1 | 12 | 20 | |
| bromodichloromethane | .35384 | .30178 | .2 | 15 | 20 | |
| 1,4-dioxane | .00109 | .0012 | .05 | -10 | 20 | F |
| dibromomethane | .12703 | .12705 | .05 | 0 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03828 | .1 | 21 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .30348 | .2 | 27 | 20 | F |
| toluene | 1.2794 | 1.1385 | .4 | 11 | 20 | |
| trans-1,3-dichloropropene | .38217 | .26911 | .1 | 30 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .20379 | .1 | 6 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018323

Instrument ID: Quimby.i  Calibration Date: 18-NOV-2010  Time: 05:29

Lab File ID: 1118A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 ccal  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10044 | .1 | 20 | 20 | F |
| 1,3-dichloropropane | .48008 | .42372 | .05 | 12 | 20 | |
| tetrachloroethene | .50656 | .49728 | .2 | 2 | 20 | |
| chlorodibromomethane | .22898 | .1963 | .1 | 14 | 20 | |
| 1,2-dibromoethane | .21845 | .20297 | .1 | 7 | 20 | |
| chlorobenzene | 1.3784 | 1.2159 | .5 | 12 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .28828 | .05 | 15 | 20 | |
| ethyl benzene | 2.6402 | 2.4426 | .1 | 7 | 20 | |
| p/m xylene | 1.0415 | .97194 | .1 | 7 | 20 | |
| o xylene | .99264 | .93829 | .3 | 5 | 20 | |
| styrene | 1.5901 | 1.4402 | .31 | 9 | 20 | |
| isopropylbenzene | 2.7063 | 2.4398 | .1 | 10 | 20 | |
| bromoform | .16937 | .155 | .1 | 8 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .43684 | .3 | 5 | 20 | |
| 1,2,3-trichloropropane | .359 | .33602 | .05 | 6 | 20 | |
| n-propylbenzene | 5.3817 | 5.0283 | .05 | 7 | 20 | |
| bromobenzene | .8701 | .8551 | .05 | 2 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.2085 | .05 | 14 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.1889 | .05 | 12 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9652 | .05 | 11 | 20 | |
| tert-butylbenzene | 3.0713 | 2.81 | .05 | 9 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4623 | .05 | 8 | 20 | |
| sec-butylbenzene | 4.6047 | 4.2331 | .05 | 8 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.4518 | .05 | 3 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.7760 | .6 | 5 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7505 | .5 | 2 | 20 | |
| n-butylbenzene | 4.0323 | 3.0419 | .05 | 25 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4711 | .4 | 7 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 74.478 | .05 | 26 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .67095 | .2 | 16 | 20 | |
| hexachlorobutadiene | .39925 | .36485 | .05 | 9 | 20 | |
| naphthalene | 1.1650 | .96706 | .05 | 17 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .49197 | .05 | 17 | 20 | |
| dibromofluoromethane | .2204 | .22045 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .22473 | .05 | 1 | 20 | |
| toluene-d8 | 1.2994 | 1.2714 | .05 | 2 | 20 | |
| 4-bromofluorobenzene | .89239 | .82386 | .05 | 8 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018323

Instrument ID: Quimby.i  Calibration Date: 17-NOV-2010  Time: 05:06

Lab File ID: 1117A03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .34521 | .1 | 18 | 20 | |
| chloromethane | .62163 | .54523 | .1 | 12 | 20 | |
| vinyl chloride | .4285 | .40804 | .1 | 5 | 20 | |
| bromomethane | .32572 | .28923 | .1 | 11 | 20 | |
| chloroethane | .35035 | .29947 | .1 | 15 | 20 | |
| trichlorofluoromethane | .6241 | .65849 | .1 | -6 | 20 | |
| ethyl ether | .13811 | .11898 | .05 | 14 | 20 | |
| acetone | 100 | 87.698 | .1 | 12 | 20 | |
| 1,1,-dichloroethene | .31495 | .2785 | .1 | 12 | 20 | |
| methylene chloride | .34246 | .29584 | .1 | 14 | 20 | |
| carbon disulfide | .90993 | .79603 | .1 | 13 | 20 | |
| methyl tert butyl ether | .48005 | .35603 | .1 | 26 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .30473 | .1 | 16 | 20 | |
| Diisopropyl Ether | 1.1682 | .92598 | .05 | 21 | 20 | F |
| 1,1-dichloroethane | .70419 | .59225 | .2 | 16 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .52532 | .05 | 28 | 20 | F |
| 2-butanone | .06714 | .0533 | .1 | 21 | 20 | F |
| 2,2-dichloropropane | .34238 | .2826 | .05 | 17 | 20 | |
| cis-1,2-dichloroethene | .37932 | .35304 | .1 | 7 | 20 | |
| chloroform | .61594 | .54221 | .2 | 12 | 20 | |
| bromochloromethane | .12887 | .11872 | .05 | 8 | 20 | |
| tetrahydrofuran | .04454 | .03524 | .05 | 21 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .39359 | .1 | 20 | 20 | F |
| 1,1-dichloropropene | .52258 | .44048 | .05 | 16 | 20 | |
| carbontetrachloride | .35402 | .29638 | .1 | 16 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .35983 | .05 | 23 | 20 | F |
| 1,2-dichloroethane | .39579 | .32389 | .1 | 18 | 20 | |
| benzene | 1.5397 | 1.3369 | .5 | 13 | 20 | |
| trichloroethene | .37211 | .3206 | .2 | 14 | 20 | |
| 1,2-dichloropropane | .35603 | .2969 | .1 | 17 | 20 | |
| bromodichloromethane | .35384 | .28936 | .2 | 18 | 20 | |
| 1,4-dioxane | .00109 | .00123 | .05 | -12 | 20 | F |
| dibromomethane | .12703 | .12182 | .05 | 4 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03624 | .1 | 25 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .2941 | .2 | 29 | 20 | F |
| toluene | 1.2794 | 1.1067 | .4 | 14 | 20 | |
| trans-1,3-dichloropropene | .38217 | .26998 | .1 | 29 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .19594 | .1 | 10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018323

Instrument ID: Quimby.i  Calibration Date: 17-NOV-2010  Time: 05:06

Lab File ID: 1117A03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09935 | .1 | 21 | 20 | F |
| 1,3-dichloropropane | .48008 | .40796 | .05 | 15 | 20 | |
| tetrachloroethene | .50656 | .47895 | .2 | 5 | 20 | |
| chlorodibromomethane | .22898 | .19355 | .1 | 15 | 20 | |
| 1,2-dibromoethane | .21845 | .18469 | .1 | 15 | 20 | |
| chlorobenzene | 1.3784 | 1.1877 | .5 | 14 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .27612 | .05 | 19 | 20 | |
| ethyl benzene | 2.6402 | 2.3291 | .1 | 12 | 20 | |
| p/m xylene | 1.0415 | .93248 | .1 | 10 | 20 | |
| o xylene | .99264 | .89988 | .3 | 9 | 20 | |
| styrene | 1.5901 | 1.3647 | .31 | 14 | 20 | |
| isopropylbenzene | 2.7063 | 2.3795 | .1 | 12 | 20 | |
| bromoform | .16937 | .14859 | .1 | 12 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .40398 | .3 | 12 | 20 | |
| 1,2,3-trichloropropane | .359 | .31812 | .05 | 11 | 20 | |
| n-propylbenzene | 5.3817 | 4.9485 | .05 | 8 | 20 | |
| bromobenzene | .8701 | .81534 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.1610 | .05 | 15 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.2037 | .05 | 11 | 20 | |
| 4-chorotoluene | 3.3404 | 2.8604 | .05 | 14 | 20 | |
| tert-butylbenzene | 3.0713 | 2.7666 | .05 | 10 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.2853 | .05 | 12 | 20 | |
| sec-butylbenzene | 4.6047 | 4.2115 | .05 | 9 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.3913 | .05 | 5 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.6862 | .6 | 10 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.6799 | .5 | 6 | 20 | |
| n-butylbenzene | 4.0323 | 2.9593 | .05 | 27 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4296 | .4 | 9 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 81.060 | .05 | 19 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .63614 | .2 | 21 | 20 | F |
| hexachlorobutadiene | .39925 | .3513 | .05 | 12 | 20 | |
| naphthalene | 1.1650 | .90111 | .05 | 23 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .47011 | .05 | 21 | 20 | F |
| dibromofluoromethane | .2204 | .21937 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21153 | .05 | 6 | 20 | |
| toluene-d8 | 1.2994 | 1.3011 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | .89239 | .84867 | .05 | 5 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018430 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/19/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018430-01 | APS-115-79.4-20101116-01 | WAYLAND, MA | 11/16/10 17:13 |
| L1018430-02 | APS-114-78.8-20101117-01 | WAYLAND, MA | 11/17/10 08:02 |
| L1018430-03 | APS-115-84.8-20101117-01 | WAYLAND, MA | 11/17/10 08:15 |
| L1018430-04 | APS-114-84.1-20101117-01 | WAYLAND, MA | 11/17/10 09:09 |
| L1018430-05 | APS-116-30.0-20101117-01 | WAYLAND, MA | 11/17/10 10:57 |
| L1018430-06 | APS-117-25.1-20101117-01 | WAYLAND, MA | 11/17/10 10:16 |
| L1018430-07 | APS-117-29.5-20101117-01 | WAYLAND, MA | 11/17/10 11:08 |
| L1018430-08 | APS-117-34.5-20101117-01 | WAYLAND, MA | 11/17/10 11:43 |
| L1018430-09 | APS-116-35.0-20101117-01 | WAYLAND, MA | 11/17/10 11:44 |
| L1018430-10 | APS-116-40.0-20101117-01 | WAYLAND, MA | 11/17/10 12:32 |
| L1018430-11 | APS-117-48.0-20101117-01 | WAYLAND, MA | 11/17/10 13:30 |
| L1018430-12 | APS-116-45.0-20101117-01 | WAYLAND, MA | 11/17/10 13:37 |
| L1018430-13 | APS-117-42.6-20101117-01 | WAYLAND, MA | 11/17/10 12:40 |
| L1018430-14 | APS-116-50.0-20101117-01 | WAYLAND, MA | 11/17/10 14:34 |
| L1018430-15 | APS-117-52.8-20101117-01 | WAYLAND, MA | 11/17/10 14:14 |
| L1018430-16 | APS-117-57.9-20101117-01 | WAYLAND, MA | 11/17/10 15:12 |
| L1018430-17 | APS-117-72.8-20101117-01 | WAYLAND, MA | 11/17/10 16:19 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018430
**Project Number:** 0114119 **Report Date:** 11/19/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG443936-1 LCS recoveries, associated with L1018430-01 through -17, are below the individual acceptance criteria for trans-1,3-Dichloropropene (65%) and cis-1,3-Dichloropropene (69%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The initial calibration, associated with L1018430-01 through -17, did not meet the method required minimum response factor for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

**Project Name:** RAYTHEON **Lab Number:** L1018430
**Project Number:** 0114119 **Report Date:** 11/19/10

**Case Narrative (continued)**

The continuing calibration standard, associated with L1018430-01 through -17, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/19/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-01 | Date Collected: | 11/16/10 17:13 |
| Client ID: | APS-115-79.4-20101116-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 18:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 71 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-01 Date Collected: 11/16/10 17:13

Client ID: APS-115-79.4-20101116-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 8.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-01 | Date Collected: | 11/16/10 17:13 |
| Client ID: | APS-115-79.4-20101116-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-02 | Date Collected: | 11/17/10 08:02 |
| Client ID: | APS-114-78.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 19:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-02 Date Collected: 11/17/10 08:02

Client ID: APS-114-78.8-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-02 | Date Collected: | 11/17/10 08:02 |
| Client ID: | APS-114-78.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-03 | Date Collected: | 11/17/10 08:15 |
| Client ID: | APS-115-84.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 19:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-03 Date Collected: 11/17/10 08:15

Client ID: APS-115-84.8-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-03 | Date Collected: | 11/17/10 08:15 |
| Client ID: | APS-115-84.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-04 | Date Collected: | 11/17/10 09:09 |
| Client ID: | APS-114-84.1-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 20:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-04 Date Collected: 11/17/10 09:09

Client ID: APS-114-84.1-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-04 | Date Collected: | 11/17/10 09:09 |
| Client ID: | APS-114-84.1-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-05 | Date Collected: | 11/17/10 10:57 |
| Client ID: | APS-116-30.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 20:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-05 Date Collected: 11/17/10 10:57

Client ID: APS-116-30.0-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-05 | Date Collected: | 11/17/10 10:57 |
| Client ID: | APS-116-30.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-06 | Date Collected: | 11/17/10 10:16 |
| Client ID: | APS-117-25.1-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 21:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-06 Date Collected: 11/17/10 10:16

Client ID: APS-117-25.1-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-06 | Date Collected: | 11/17/10 10:16 |
| Client ID: | APS-117-25.1-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-07 | Date Collected: | 11/17/10 11:08 |
| Client ID: | APS-117-29.5-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 21:37 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.8 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 17 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-07 Date Collected: 11/17/10 11:08

Client ID: APS-117-29.5-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-07 | Date Collected: | 11/17/10 11:08 |
| Client ID: | APS-117-29.5-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-08 | Date Collected: | 11/17/10 11:43 |
| Client ID: | APS-117-34.5-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 22:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 23 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-08 Date Collected: 11/17/10 11:43

Client ID: APS-117-34.5-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-08 | Date Collected: | 11/17/10 11:43 |
| Client ID: | APS-117-34.5-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-09 | Date Collected: | 11/17/10 11:44 |
| Client ID: | APS-116-35.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 22:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-09 Date Collected: 11/17/10 11:44

Client ID: APS-116-35.0-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-09 | Date Collected: | 11/17/10 11:44 |
| Client ID: | APS-116-35.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-10 | Date Collected: | 11/17/10 12:32 |
| Client ID: | APS-116-40.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 23:12 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 20 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 110 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-10 Date Collected: 11/17/10 12:32

Client ID: APS-116-40.0-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 160 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-10 | Date Collected: | 11/17/10 12:32 |
| Client ID: | APS-116-40.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 17 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-11 | Date Collected: | 11/17/10 13:30 |
| Client ID: | APS-117-48.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/18/10 23:43 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 3.5 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 21 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-11 Date Collected: 11/17/10 13:30

Client ID: APS-117-48.0-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 3.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-11 | Date Collected: | 11/17/10 13:30 |
| Client ID: | APS-117-48.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-12 | Date Collected: | 11/17/10 13:37 |
| Client ID: | APS-116-45.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/19/10 00:15 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 45 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-12 Date Collected: 11/17/10 13:37

Client ID: APS-116-45.0-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 2.2 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-12 | Date Collected: | 11/17/10 13:37 |
| Client ID: | APS-116-45.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-13 | Date Collected: | 11/17/10 12:40 |
| Client ID: | APS-117-42.6-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/19/10 00:46 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 12 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 72 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-13 Date Collected: 11/17/10 12:40

Client ID: APS-117-42.6-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 78 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-13 | Date Collected: | 11/17/10 12:40 |
| Client ID: | APS-117-42.6-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 7.1 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-14 | Date Collected: | 11/17/10 14:34 |
| Client ID: | APS-116-50.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/19/10 01:18 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 14 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 80 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-14 Date Collected: 11/17/10 14:34

Client ID: APS-116-50.0-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 32 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-14 | Date Collected: | 11/17/10 14:34 |
| Client ID: | APS-116-50.0-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 5.6 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-15 | Date Collected: | 11/17/10 14:14 |
| Client ID: | APS-117-52.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/19/10 01:49 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 53 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-15 Date Collected: 11/17/10 14:14

Client ID: APS-117-52.8-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 9.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-15 | Date Collected: | 11/17/10 14:14 |
| Client ID: | APS-117-52.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-16 | Date Collected: | 11/17/10 15:12 |
| Client ID: | APS-117-57.9-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/19/10 02:21 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 61 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-16 Date Collected: 11/17/10 15:12

Client ID: APS-117-57.9-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 8.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-16 | Date Collected: | 11/17/10 15:12 |
| Client ID: | APS-117-57.9-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-17 | Date Collected: | 11/17/10 16:19 |
| Client ID: | APS-117-72.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/19/10 02:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

Lab ID: L1018430-17 Date Collected: 11/17/10 16:19

Client ID: APS-117-72.8-20101117-01 Date Received: 11/17/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018430-17 | Date Collected: | 11/17/10 16:19 |
| Client ID: | APS-117-72.8-20101117-01 | Date Received: | 11/17/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/18/10 16:54
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-17 Batch: WG443936-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/18/10 16:54
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-17 Batch: WG443936-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018430

**Project Number:** 0114119 **Report Date:** 11/19/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/18/10 16:54
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-17 Batch: WG443936-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| D bromofluoromethane | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-17 Batch: WG443936-1 WG443936-2 | | | | | | | | |
| Methylene chloride | 91 | | 93 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 85 | | 87 | | 70-130 | 2 | | 20 |
| Chloroform | 89 | | 90 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 79 | | 86 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 84 | | 84 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 81 | | 88 | | 70-130 | 8 | | 20 |
| 1,1,2-Trichloroethane | 87 | | 92 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 85 | | 89 | | 70-130 | 5 | | 20 |
| Trichlorofluoromethane | 94 | | 112 | | 70-130 | 17 | | 20 |
| 1,2-Dichloroethane | 87 | | 87 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 80 | | 84 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 80 | | 84 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | **65** | Q | 70 | | 70-130 | 7 | | 20 |
| cis-1,3-Dichloropropene | **69** | Q | 72 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 86 | | 87 | | 70-130 | 1 | | 20 |
| Bromoform | 85 | | 88 | | 70-130 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 87 | | 92 | | 70-130 | 6 | | 20 |
| Benzene | 89 | | 90 | | 70-130 | 1 | | 20 |
| Toluene | 86 | | 88 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 89 | | 91 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-17 Batch: WG443936-1 WG443936-2 | | | | | | | | |
| Chloromethane | 91 | | 94 | | 70-130 | 3 | | 20 |
| Bromomethane | 83 | | 86 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 95 | | 101 | | 70-130 | 6 | | 20 |
| Chloroethane | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 88 | | 92 | | 70-130 | 4 | | 20 |
| trans-1,2-Dichloroethene | 87 | | 88 | | 70-130 | 1 | | 20 |
| Trichloroethene | 86 | | 91 | | 70-130 | 6 | | 20 |
| 1,2-Dichlorobenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 95 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 72 | | 72 | | 70-130 | 0 | | 20 |
| p/m-Xylene | 89 | | 91 | | 70-130 | 2 | | 20 |
| o-Xylene | 88 | | 90 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 93 | | 95 | | 70-130 | 2 | | 20 |
| Dibromomethane | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 87 | | 70-130 | 2 | | 20 |
| Styrene | 87 | | 87 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 84 | | 88 | | 70-130 | 5 | | 20 |
| Acetone | 82 | | 80 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 77 | | 78 | | 70-130 | 1 | | 20 |
| 2-Butanone | 89 | | 85 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-17 Batch: WG443936-1 WG443936-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 82 | | 83 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 76 | | 79 | | 70-130 | 4 | | 20 |
| Bromochloromethane | 95 | | 93 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 82 | | 76 | | 70-130 | 8 | | 20 |
| 2,2-Dichloropropane | 80 | | 85 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 87 | | 89 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 87 | | 86 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 78 | | 82 | | 70-130 | 5 | | 20 |
| Bromobenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 70 | | 72 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 85 | | 90 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 87 | | 88 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 84 | | 87 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 84 | | 85 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 72 | | 81 | | 70-130 | 12 | | 20 |
| Hexachlorobutadiene | 87 | | 90 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 87 | | 90 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 91 | | 93 | | 70-130 | 2 | | 20 |
| Naphthalene | 76 | | 78 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 86 | | 88 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 80 | | 80 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-17 Batch: WG443936-1 WG443936-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 79 | | 81 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 81 | | 84 | | 70-130 | 4 | | 20 |
| 1,2,4-Trimethylbenzene | 86 | | 86 | | 70-130 | 0 | | 20 |
| Ethyl ether | 82 | | 80 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 76 | | 75 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 71 | | 71 | | 70-130 | 0 | | 20 |
| Tertiary-Amyl Methyl Ether | 72 | | 72 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 118 | | 112 | | 70-130 | 5 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 97 | | 70-130 |
| Toluene-d8 | 99 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 90 | | 90 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018430-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018430
**Report Date:** 11/19/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018430-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-15A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-15B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-16A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-16B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-17A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018430-17B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018430 |
| **Project Number:** | 0114119 | **Report Date:** | 11/19/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018430 |
| **Project Number:** | 0114119 | **Report Date:** | 11/19/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018430
**Project Number:** 0114119 **Report Date:** 11/19/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/17/10

ALPHA Job #: L1018430

**Client Information**

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.

Date Due: 11/18/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18430.1 | APS-115-79.4-20101117-01 | 11/16/2010 | 1713 | GW | LSM | 2 | | |
| 2 | APS-114-78.8-20101117-01 | 11/17/2010 | 0802 | | | | | |
| 3 | APS-115-84.2-20101117-01 | | 0815 | | | | | |
| 4 | APS-114-84.1-20101117-01 | | 0909 | | | | | |
| 5 | APS-116-30.0-20101117-01 | | 1057 | | | | | |
| 6 | APS-117-25.1-20101117-01 | | 1016 | | | | | |
| 7 | APS-117-29.5-20101117-01 | | 1108 | | | | | |
| 8 | APS-117-34.5-20101117-01 | | 1143 | | | | | |
| 9 | APS-116-35.0-20101117-01 | | 1144 | | | | | |
| 10 | APS-116-40.0-20101117-01 | | 1232 | | | | | |

Container Type: VIAL

Preservative: HCL

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/17/2010 1625 | [signature] | 11/17/10 1625 |
| [signature] | 11/17/10 1730 | [signature] | 11/17/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial No:11191011:24

# CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 11/17/10

ALPHA Job #: L1018430

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Serial_No:11191011:24

## Client Information

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr.

Date Due: 11/19/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18430 11 | APS-117-48.0-20101117-01 | 11/17/10 | 1330 | GW | LSM | 2 | | |
| 12 | APS-116-45.0-20101117-01 | | 1337 | | | | | |
| 13 | APS-117-42.6-20101117-01 | | 1240 | | | | | |
| 14 | APS-116-50.0-20101117-01 | | 1434 | | | | | |
| 15 | APS-117-52.8-20101117-01 | | 1414 | | | | | |
| 16 | APS-117-57.9-20101117-01 | | 1512 | | | | | |
| 17 | APS-117-72.8-20101117-01 | | 1619 | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/17/2010 1625 | [signature] | 11/17/10 1625 |
| [signature] | 11/17/10 1730 | [signature] | 11/17/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018430

Instrument ID: Quimby.i  Calibration Date: 18-NOV-2010  Time: 15:51

Lab File ID: 1118N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .35468 | .1 | 16 | 20 | |
| chloromethane | .62163 | .56555 | .1 | 9 | 20 | |
| vinyl chloride | .4285 | .40851 | .1 | 5 | 20 | |
| bromomethane | .32572 | .27179 | .1 | 17 | 20 | |
| chloroethane | .35035 | .30766 | .1 | 12 | 20 | |
| trichlorofluoromethane | .6241 | .58814 | .1 | 6 | 20 | |
| ethyl ether | .13811 | .11373 | .05 | 18 | 20 | |
| acetone | 100 | 82.296 | .1 | 18 | 20 | |
| 1,1,-dichloroethene | .31495 | .27828 | .1 | 12 | 20 | |
| methylene chloride | .34246 | .31268 | .1 | 9 | 20 | |
| carbon disulfide | .90993 | .69662 | .1 | 23 | 20 | F |
| methyl tert butyl ether | .48005 | .34816 | .1 | 27 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .3141 | .1 | 13 | 20 | |
| Diisopropyl Ether | 1.1682 | .89024 | .05 | 24 | 20 | F |
| 1,1-dichloroethane | .70419 | .59788 | .2 | 15 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .51592 | .05 | 29 | 20 | F |
| 2-butanone | .06714 | .05956 | .1 | 11 | 20 | F |
| 2,2-dichloropropane | .34238 | .27296 | .05 | 20 | 20 | F |
| cis-1,2-dichloroethene | .37932 | .35125 | .1 | 7 | 20 | |
| chloroform | .61594 | .54659 | .2 | 11 | 20 | |
| bromochloromethane | .12887 | .12215 | .05 | 5 | 20 | |
| tetrahydrofuran | .04454 | .03669 | .05 | 18 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .39324 | .1 | 20 | 20 | F |
| 1,1-dichloropropene | .52258 | .44662 | .05 | 15 | 20 | |
| carbontetrachloride | .35402 | .28018 | .1 | 21 | 20 | F |
| Tertiary-Amyl Methyl Ether | .46697 | .33738 | .05 | 28 | 20 | F |
| 1,2-dichloroethane | .39579 | .34433 | .1 | 13 | 20 | |
| benzene | 1.5397 | 1.3694 | .5 | 11 | 20 | |
| trichloroethene | .37211 | .31975 | .2 | 14 | 20 | |
| 1,2-dichloropropane | .35603 | .29941 | .1 | 16 | 20 | |
| bromodichloromethane | .35384 | .28195 | .2 | 20 | 20 | F |
| 1,4-dioxane | .00109 | .00129 | .05 | -18 | 20 | F |
| dibromomethane | .12703 | .125 | .05 | 2 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03974 | .1 | 18 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .28793 | .2 | 31 | 20 | F |
| toluene | 1.2794 | 1.1022 | .4 | 14 | 20 | |
| trans-1,3-dichloropropene | .38217 | .24812 | .1 | 35 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .1883 | .1 | 13 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018430

Instrument ID: Quimby.i  Calibration Date: 18-NOV-2010  Time: 15:51

Lab File ID: 1118N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09528 | .1 | 24 | 20 | F |
| 1,3-dichloropropane | .48008 | .41914 | .05 | 13 | 20 | |
| tetrachloroethene | .50656 | .48729 | .2 | 4 | 20 | |
| chlorodibromomethane | .22898 | .18455 | .1 | 19 | 20 | |
| 1,2-dibromoethane | .21845 | .18954 | .1 | 13 | 20 | |
| chlorobenzene | 1.3784 | 1.1763 | .5 | 15 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .26511 | .05 | 22 | 20 | F |
| ethyl benzene | 2.6402 | 2.3426 | .1 | 11 | 20 | |
| p/m xylene | 1.0415 | .92699 | .1 | 11 | 20 | |
| o xylene | .99264 | .87649 | .3 | 12 | 20 | |
| styrene | 1.5901 | 1.3864 | .31 | 13 | 20 | |
| isopropylbenzene | 2.7063 | 2.3526 | .1 | 13 | 20 | |
| bromoform | .16937 | .14382 | .1 | 15 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .39845 | .3 | 13 | 20 | |
| 1,2,3-trichloropropane | .359 | .31937 | .05 | 11 | 20 | |
| n-propylbenzene | 5.3817 | 4.6129 | .05 | 14 | 20 | |
| bromobenzene | .8701 | .79945 | .05 | 8 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.0286 | .05 | 19 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.0545 | .05 | 15 | 20 | |
| 4-chorotoluene | 3.3404 | 2.8237 | .05 | 15 | 20 | |
| tert-butylbenzene | 3.0713 | 2.6768 | .05 | 13 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.2327 | .05 | 14 | 20 | |
| sec-butylbenzene | 4.6047 | 3.9323 | .05 | 15 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.2468 | .05 | 9 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.6875 | .6 | 10 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.6686 | .5 | 7 | 20 | |
| n-butylbenzene | 4.0323 | 2.8395 | .05 | 30 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4511 | .4 | 8 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 71.514 | .05 | 28 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .63607 | .2 | 21 | 20 | F |
| hexachlorobutadiene | .39925 | .34707 | .05 | 13 | 20 | |
| naphthalene | 1.1650 | .8825 | .05 | 24 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .47694 | .05 | 20 | 20 | |
| dibromofluoromethane | .2204 | .22443 | .05 | -2 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21898 | .05 | 3 | 20 | |
| toluene-d8 | 1.2994 | 1.2850 | .05 | 1 | 20 | |
| 4-bromofluorobenzene | .89239 | .8039 | .05 | 10 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018523 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/22/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018523-01 | APS-116-70.0-20101117-01 | WAYLAND, MA | 11/17/10 16:46 |
| L1018523-02 | APS-117-82.8-20101118-01 | WAYLAND, MA | 11/18/10 07:39 |
| L1018523-03 | APS-116-75.0-20101118-01 | WAYLAND, MA | 11/18/10 08:06 |
| L1018523-04 | APS-117-87.8-20101118-01 | WAYLAND, MA | 11/18/10 08:42 |
| L1018523-05 | APS-116-80.0-20101118-01 | WAYLAND, MA | 11/18/10 09:24 |
| L1018523-06 | APS-119-19.9-20101118-01 | WAYLAND, MA | 11/18/10 10:41 |
| L1018523-07 | APS-119-25.1-20101118-01 | WAYLAND, MA | 11/18/10 11:09 |
| L1018523-08 | APS-118-30.0-20101118-01 | WAYLAND, MA | 11/18/10 11:21 |
| L1018523-09 | APS-119-30.1-20101118-01 | WAYLAND, MA | 11/18/10 11:40 |
| L1018523-10 | APS-118-35.0-20101118-01 | WAYLAND, MA | 11/18/10 12:07 |
| L1018523-11 | APS-118-39.5-20101118-01 | WAYLAND, MA | 11/18/10 13:00 |
| L1018523-12 | APS-119-35.0-20101118-01 | WAYLAND, MA | 11/18/10 12:08 |
| L1018523-13 | APS-119-40.0-20101118-01 | WAYLAND, MA | 11/18/10 12:45 |
| L1018523-14 | APS-119-44.8-20101118-01 | WAYLAND, MA | 11/18/10 13:36 |
| L1018523-15 | APS-118-45.0-20101118-01 | WAYLAND, MA | 11/18/10 14:10 |
| L1018523-16 | APS-119-50.0-20101118-01 | WAYLAND, MA | 11/18/10 14:09 |
| L1018523-17 | APS-119-54.6-20101118-01 | WAYLAND, MA | 11/18/10 14:51 |
| L1018523-18 | APS-119-60.1-20101118-01 | WAYLAND, MA | 11/18/10 15:31 |
| L1018523-19 | APS-118-64.4-20101118-01 | WAYLAND, MA | 11/18/10 16:04 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018523
**Project Number:** 0114119 **Report Date:** 11/22/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics
In reference to question G:
One or more of the target analytes did not achieve the requested CAM reporting limits.
In reference to question H:
The WG444229-1 LCS recovery, associated with L1018523-01, -02, and -03, is below the acceptance criteria for 1,2-Dibromo-3-chloropropane (66%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.
The initial calibration, associated with L1018523-01 through -19, did not meet the method required minimum response factors for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized

**Project Name:** RAYTHEON **Lab Number:** L1018523
**Project Number:** 0114119 **Report Date:** 11/22/10

**Case Narrative (continued)**

quadratic fits for Acetone, and 1,2-Dibromo-3-chloropropane.

The continuing calibration standards, associated with L1018523-01 through -19, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as addenda to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/22/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-01 | Date Collected: | 11/17/10 16:46 |
| Client ID: | APS-116-70.0-20101117-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/20/10 12:26 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 20 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-01 Date Collected: 11/17/10 16:46

Client ID: APS-116-70.0-20101117-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.8 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-01 | Date Collected: | 11/17/10 16:46 |
| Client ID: | APS-116-70.0-20101117-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-02 | Date Collected: | 11/18/10 07:39 |
| Client ID: | APS-117-82.8-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/20/10 12:58 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-02 Date Collected: 11/18/10 07:39

Client ID: APS-117-82.8-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-02 | Date Collected: | 11/18/10 07:39 |
| Client ID: | APS-117-82.8-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-03 | Date Collected: | 11/18/10 08:06 |
| Client ID: | APS-116-75.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/20/10 13:30 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 75 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-03 Date Collected: 11/18/10 08:06

Client ID: APS-116-75.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-03 | Date Collected: | 11/18/10 08:06 |
| Client ID: | APS-116-75.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-04 | Date Collected: | 11/18/10 08:42 |
| Client ID: | APS-117-87.8-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 10:15 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-04 Date Collected: 11/18/10 08:42

Client ID: APS-117-87.8-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-04 | Date Collected: | 11/18/10 08:42 |
| Client ID: | APS-117-87.8-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-05 | Date Collected: | 11/18/10 09:24 |
| Client ID: | APS-116-80.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 10:46 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 51 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-05 Date Collected: 11/18/10 09:24

Client ID: APS-116-80.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 13 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-05 | Date Collected: | 11/18/10 09:24 |
| Client ID: | APS-116-80.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-06 | Date Collected: | 11/18/10 10:41 |
| Client ID: | APS-119-19.9-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 11:18 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-06 Date Collected: 11/18/10 10:41

Client ID: APS-119-19.9-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-06 | Date Collected: | 11/18/10 10:41 |
| Client ID: | APS-119-19.9-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-07 | Date Collected: | 11/18/10 11:09 |
| Client ID: | APS-119-25.1-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 11:49 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-07 Date Collected: 11/18/10 11:09

Client ID: APS-119-25.1-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-07 | Date Collected: | 11/18/10 11:09 |
| Client ID: | APS-119-25.1-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-08 | Date Collected: | 11/18/10 11:21 |
| Client ID: | APS-118-30.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 12:21 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-08 Date Collected: 11/18/10 11:21

Client ID: APS-118-30.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-08 | Date Collected: | 11/18/10 11:21 |
| Client ID: | APS-118-30.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-09 | Date Collected: | 11/18/10 11:40 |
| Client ID: | APS-119-30.1-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 12:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-09 Date Collected: 11/18/10 11:40

Client ID: APS-119-30.1-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-09 | Date Collected: | 11/18/10 11:40 |
| Client ID: | APS-119-30.1-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-10 | Date Collected: | 11/18/10 12:07 |
| Client ID: | APS-118-35.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 13:24 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-10 Date Collected: 11/18/10 12:07

Client ID: APS-118-35.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-10 | Date Collected: | 11/18/10 12:07 |
| Client ID: | APS-118-35.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-11 | Date Collected: | 11/18/10 13:00 |
| Client ID: | APS-118-39.5-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 13:56 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-11 Date Collected: 11/18/10 13:00

Client ID: APS-118-39.5-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-11 | Date Collected: | 11/18/10 13:00 |
| Client ID: | APS-118-39.5-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-12 | Date Collected: | 11/18/10 12:08 |
| Client ID: | APS-119-35.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 14:27 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.9 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 18 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-12 Date Collected: 11/18/10 12:08

Client ID: APS-119-35.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-12 | Date Collected: | 11/18/10 12:08 |
| Client ID: | APS-119-35.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-13 | Date Collected: | 11/18/10 12:45 |
| Client ID: | APS-119-40.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 14:59 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 3.7 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 48 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-13 Date Collected: 11/18/10 12:45

Client ID: APS-119-40.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-13 | Date Collected: | 11/18/10 12:45 |
| Client ID: | APS-119-40.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-14 | Date Collected: | 11/18/10 13:36 |
| Client ID: | APS-119-44.8-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 15:30 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 4.6 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.8 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 57 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-14 Date Collected: 11/18/10 13:36

Client ID: APS-119-44.8-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-14 | Date Collected: | 11/18/10 13:36 |
| Client ID: | APS-119-44.8-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-15 | Date Collected: | 11/18/10 14:10 |
| Client ID: | APS-118-45.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 16:02 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.5 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 24 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-15 Date Collected: 11/18/10 14:10

Client ID: APS-118-45.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-15 | Date Collected: | 11/18/10 14:10 |
| Client ID: | APS-118-45.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-16 | Date Collected: | 11/18/10 14:09 |
| Client ID: | APS-119-50.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 16:33 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 55 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-16 Date Collected: 11/18/10 14:09

Client ID: APS-119-50.0-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.8 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-16 | Date Collected: | 11/18/10 14:09 |
| Client ID: | APS-119-50.0-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-17 | Date Collected: | 11/18/10 14:51 |
| Client ID: | APS-119-54.6-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/21/10 17:04 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.3 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 66 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-17 Date Collected: 11/18/10 14:51

Client ID: APS-119-54.6-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 2.2 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 3.6 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-17 | Date Collected: | 11/18/10 14:51 |
| Client ID: | APS-119-54.6-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-18 | Date Collected: | 11/18/10 15:31 |
| Client ID: | APS-119-60.1-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 10:02 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 8.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-18 Date Collected: 11/18/10 15:31

Client ID: APS-119-60.1-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-18 | Date Collected: | 11/18/10 15:31 |
| Client ID: | APS-119-60.1-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-19 | Date Collected: | 11/18/10 16:04 |
| Client ID: | APS-118-64.4-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 11:05 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 50 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

Lab ID: L1018523-19 Date Collected: 11/18/10 16:04

Client ID: APS-118-64.4-20101118-01 Date Received: 11/18/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018523-19 | Date Collected: | 11/18/10 16:04 |
| Client ID: | APS-118-64.4-20101118-01 | Date Received: | 11/18/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/20/10 06:40
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG444229-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/20/10 06:40
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG444229-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/20/10 06:40
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG444229-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| D bromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/21/10 07:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-17 Batch: WG444257-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/21/10 07:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-17 Batch: WG444257-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 10 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/21/10 07:37
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-17 Batch: WG444257-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/22/10 06:53
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 18-19 Batch: WG444333-6 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/22/10 06:53
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 18-19 Batch: WG444333-6 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018523

**Project Number:** 0114119 **Report Date:** 11/22/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/22/10 06:53
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 18-19 Batch: WG444333-6 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 70-130 |
| D bromofluoromethane | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG444229-1 WG444229-2 | | | | | | | | |
| Methylene chloride | 95 | | 96 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 91 | | 92 | | 70-130 | 1 | | 20 |
| Chloroform | 99 | | 98 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 89 | | 96 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 94 | | 94 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 84 | | 89 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 93 | | 93 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 109 | | 109 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 106 | | 106 | | 70-130 | 0 | | 20 |
| 1,2-Dichloroethane | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 87 | | 90 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 89 | | 90 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 73 | | 76 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 78 | | 79 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Bromoform | 87 | | 93 | | 70-130 | 7 | | 20 |
| 1,1,2,2-Tetrachloroethane | 86 | | 90 | | 70-130 | 5 | | 20 |
| Benzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| Toluene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 99 | | 99 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG444229-1 WG444229-2 | | | | | | | | |
| Chloromethane | 95 | | 93 | | 70-130 | 2 | | 20 |
| Bromomethane | 91 | | 93 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 102 | | 103 | | 70-130 | 1 | | 20 |
| Chloroethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 95 | | 94 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Trichloroethene | 97 | | 97 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 99 | | 99 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 103 | | 103 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 105 | | 106 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 79 | | 81 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 99 | | 101 | | 70-130 | 2 | | 20 |
| o-Xylene | 102 | | 102 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 101 | | 70-130 | 1 | | 20 |
| Dibromomethane | 108 | | 108 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 88 | | 90 | | 70-130 | 2 | | 20 |
| Styrene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| Acetone | 76 | | 72 | | 70-130 | 5 | | 20 |
| Carbon disulfide | 80 | | 82 | | 70-130 | 2 | | 20 |
| 2-Butanone | 79 | | 88 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG444229-1 WG444229-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 84 | | 84 | | 70-130 | 0 | | 20 |
| 2-Hexanone | 74 | | 79 | | 70-130 | 7 | | 20 |
| Bromochloromethane | 104 | | 106 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 81 | | 88 | | 70-130 | 8 | | 20 |
| 2,2-Dichloropropane | 93 | | 94 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 92 | | 94 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 85 | | 88 | | 70-130 | 3 | | 20 |
| Bromobenzene | 98 | | 102 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 81 | | 81 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 94 | | 93 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | **66** | Q | 78 | | 70-130 | 17 | | 20 |
| Hexachlorobutadiene | 102 | | 104 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 104 | | 103 | | 70-130 | 1 | | 20 |
| Naphthalene | 77 | | 79 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 83 | | 88 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG444229-1 WG444229-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 87 | | 90 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| Ethyl ether | 92 | | 92 | | 70-130 | 0 | | 20 |
| Isopropyl Ether | 87 | | 88 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 80 | | 81 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 84 | | 84 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 113 | | 112 | | 70-130 | 1 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 94 | | 70-130 |
| Toluene-d8 | 98 | | 97 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 91 | | 70-130 |
| Dibromofluoromethane | 101 | | 103 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-17 Batch: WG444257-1 WG444257-2 | | | | | | | | |
| Methylene chloride | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 90 | | 88 | | 70-130 | 2 | | 20 |
| Chloroform | 97 | | 93 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 100 | | 92 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 92 | | 90 | | 70-130 | 2 | | 20 |
| Dibromochloromethane | 100 | | 91 | | 70-130 | 9 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 91 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 108 | | 102 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 93 | | 89 | | 70-130 | 4 | | 20 |
| Trichlorofluoromethane | 110 | | 104 | | 70-130 | 6 | | 20 |
| 1,2-Dichloroethane | 90 | | 87 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 88 | | 70-130 | 7 | | 20 |
| Bromodichloromethane | 94 | | 89 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 81 | | 76 | | 70-130 | 6 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 80 | | 70-130 | 2 | | 20 |
| 1,1-Dichloropropene | 93 | | 90 | | 70-130 | 3 | | 20 |
| Bromoform | 108 | | 99 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 92 | | 88 | | 70-130 | 4 | | 20 |
| Benzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| Toluene | 92 | | 88 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 94 | | 91 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-17 Batch: WG444257-1 WG444257-2 | | | | | | | | |
| Chloromethane | 93 | | 89 | | 70-130 | 4 | | 20 |
| Bromomethane | 92 | | 91 | | 70-130 | 1 | | 20 |
| Vinyl chloride | 98 | | 94 | | 70-130 | 4 | | 20 |
| Chloroethane | 87 | | 84 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 98 | | 93 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 89 | | 70-130 | 4 | | 20 |
| Trichloroethene | 96 | | 91 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 98 | | 94 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 94 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 102 | | 98 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 86 | | 84 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 97 | | 92 | | 70-130 | 5 | | 20 |
| o-Xylene | 99 | | 96 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Dibromomethane | 107 | | 105 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 87 | | 70-130 | 8 | | 20 |
| Styrene | 96 | | 93 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 104 | | 101 | | 70-130 | 3 | | 20 |
| Acetone | 82 | | 79 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 94 | | 90 | | 70-130 | 4 | | 20 |
| 2-Butanone | 95 | | 89 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-17 Batch: WG444257-1 WG444257-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 87 | | 91 | | 70-130 | 4 | | 20 |
| 2-Hexanone | 82 | | 81 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 105 | | 101 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 93 | | 84 | | 70-130 | 10 | | 20 |
| 2,2-Dichloropropane | 102 | | 96 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 95 | | 96 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,1,1,2-Tetrachloroethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| Bromobenzene | 104 | | 97 | | 70-130 | 7 | | 20 |
| n-Butylbenzene | 78 | | 76 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| tert-Butylbenzene | 96 | | 91 | | 70-130 | 5 | | 20 |
| o-Chlorotoluene | 91 | | 87 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 89 | | 86 | | 70-130 | 3 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 83 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | 101 | | 100 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 101 | | 97 | | 70-130 | 4 | | 20 |
| Naphthalene | 81 | | 74 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 82 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-17 Batch: WG444257-1 WG444257-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 88 | | 84 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 89 | | 84 | | 70-130 | 6 | | 20 |
| 1,2,4-Trimethylbenzene | 93 | | 89 | | 70-130 | 4 | | 20 |
| Ethyl ether | 93 | | 90 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 91 | | 88 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 84 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 90 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 115 | | 110 | | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 97 | | 70-130 |
| Toluene-d8 | 97 | | 97 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 90 | | 70-130 |
| Dibromofluoromethane | 103 | | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 18-19 Batch: WG444333-4 WG444333-5 | | | | | | | | |
| Methylene chloride | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 88 | | 91 | | 70-130 | 3 | | 20 |
| Chloroform | 95 | | 97 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 95 | | 102 | | 70-130 | 7 | | 20 |
| 1,2-Dichloropropane | 89 | | 92 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 94 | | 101 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 106 | | 111 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 105 | | 109 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 93 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 78 | | 83 | | 70-130 | 6 | | 20 |
| cis-1,3-Dichloropropene | 79 | | 84 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Bromoform | 97 | | 106 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 90 | | 93 | | 70-130 | 3 | | 20 |
| Benzene | 92 | | 95 | | 70-130 | 3 | | 20 |
| Toluene | 91 | | 93 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 94 | | 96 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 18-19 Batch: WG444333-4 WG444333-5 | | | | | | | | |
| Chloromethane | 88 | | 90 | | 70-130 | 2 | | 20 |
| Bromomethane | 86 | | 93 | | 70-130 | 8 | | 20 |
| Vinyl chloride | 93 | | 99 | | 70-130 | 6 | | 20 |
| Chloroethane | 82 | | 85 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 93 | | 97 | | 70-130 | 4 | | 20 |
| trans-1,2-Dichloroethene | 90 | | 93 | | 70-130 | 3 | | 20 |
| Trichloroethene | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 101 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 104 | | 70-130 | 5 | | 20 |
| Methyl tert butyl ether | 77 | | 77 | | 70-130 | 0 | | 20 |
| p/m-Xylene | 96 | | 98 | | 70-130 | 2 | | 20 |
| o-Xylene | 94 | | 97 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Dibromomethane | 104 | | 105 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 92 | | 70-130 | 3 | | 20 |
| Styrene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 99 | | 104 | | 70-130 | 5 | | 20 |
| Acetone | 80 | | 75 | | 70-130 | 6 | | 20 |
| Carbon disulfide | 86 | | 89 | | 70-130 | 3 | | 20 |
| 2-Butanone | 81 | | 84 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 18-19 Batch: WG444333-4 WG444333-5 | | | | | | | | |
| 4-Methyl-2-pentanone | 82 | | 87 | | 70-130 | 6 | | 20 |
| 2-Hexanone | 78 | | 75 | | 70-130 | 4 | | 20 |
| Bromochloromethane | 100 | | 106 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | 77 | | 80 | | 70-130 | 4 | | 20 |
| 2,2-Dichloropropane | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,3-Dichloropropane | 91 | | 95 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 95 | | 97 | | 70-130 | 2 | | 20 |
| Bromobenzene | 100 | | 104 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 78 | | 79 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 94 | | 97 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 92 | | 96 | | 70-130 | 4 | | 20 |
| o-Chlorotoluene | 90 | | 92 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,2-Dibromo-3-chloropropane | 82 | | 90 | | 70-130 | 9 | | 20 |
| Hexachlorobutadiene | 99 | | 103 | | 70-130 | 4 | | 20 |
| Isopropylbenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 101 | | 103 | | 70-130 | 2 | | 20 |
| Naphthalene | 78 | | 81 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 87 | | 88 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119
**Lab Number:** L1018523
**Report Date:** 11/22/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 18-19 Batch: WG444333-4 WG444333-5 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 87 | | 90 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 95 | | 70-130 | 3 | | 20 |
| Ethyl ether | 87 | | 88 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 82 | | 83 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 76 | | 78 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 79 | | 82 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 110 | | 115 | | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 95 | | 70-130 |
| Toluene-d8 | 97 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 89 | | 90 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018523-01A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-01B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-02A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-02B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-03A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-03B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-04A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-04B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-05A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-05B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-06A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-06B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-07A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-07B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-08A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-08B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-09A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-09B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-10A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-10B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-11A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-11B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-12A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-12B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-13A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-13B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-14A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018523
**Report Date:** 11/22/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018523-14B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-15A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-15B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-16A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-16B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-17A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-17B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-18A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-18B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-19A | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |
| L1018523-19B | Vial HCl preserved | A | N/A | 4 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1018523
**Project Number:** 0114119 **Report Date:** 11/22/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018523 |
| **Project Number:** | 0114119 | **Report Date:** | 11/22/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018523
**Project Number:** 0114119 **Report Date:** 11/22/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 11/18/10

ALPHA Job #: L1018523

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St.
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON. FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☑ RUSH (only confirmed if pre-approved!) 48hr.
Date Due: 11/20/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8523.1 | APS-116-70.0-20101117-01 | 11/17/10 | 1646 ✓ | GW | LJM | 2 | | |
| 2 | APS-117-82.8-20101118-01 | 11/18/10 | 0739 ✓ | ↓ | ↓ | ↓ | | |
| 3 | APS-116-75.0-20101118-01 | 11/18/10 | 0806 ✓ | | | | | |
| 4 | APS-117-87.8-20101118-01 | 11/18/10 | 0842 ✓ | | | | | |
| 5 | APS-116-80.0-20101118-01 | 11/18/10 | 0924 ✓ | | | | | |
| 6 | APS-119-19.9-20101118-01 | 11/18/10 | 1041 ✓ | | | | | |
| 7 | APS-119-25.1-20101118-01 | 11/18/10 | 1104 ✓ | | | | | |
| 8 | APS-118-30.0-20101118-01 | 11/18/10 | 1121 ✓ | | | | | |
| 9 | APS-119-30.1-20101118-01 | 11/18/10 | 1140 ✓ | | | | | |
| 10 | APS-118-35.0-20101118-01 | 11/18/10 | 1207 ✓ | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VIAL | | | | | | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/18/2010 1630 | [signature] | 11/18/10 1630 |
| [signature] | 11/18/10 1730 | [signature] | 11/18/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 11/18/10

ALPHA Job #: L1018503

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr.
Date Due: 11/20/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: 8260 VOC | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8503.11 | APS-118-39.5-201118-01 | 11/18/10 | 1300 | GW | LJM | 2 | | |
| 12 | APS-119-35.0-201118-01 | | 1208 | | | | | |
| 13 | APS-119-40.0-20101118-01 | | 1245 | | | | | |
| 14 | APS-119-44.8-20101118-01 | | 1336 | | | | | |
| 15 | APS-118-45.0-20101118-01 | | 1410 | | | | | |
| 16 | APS-119-50.0-20101118-01 | | 1409 | | | | | |
| 17 | APS-119-54.6-20101118-01 | | 1451 | | | | | |
| 18 | APS-119-60.1-20101118-01 | | 1531 | | | | | |
| 19 | APS-118-64.4-20101118-01 | | 1604 | | | | | |

| | | |
|---|---|---|
| Container Type | VIAI | |
| Preservative | HCL | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/18/2010 1650 | [signature] | 11/18/10 1638 |
| [signature] | 11-18-10 1730 | [signature] | 11/18/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018523

Instrument ID: Quimby.i  Calibration Date: 22-NOV-2010  Time: 05:50

Lab File ID: 1122A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .41697 | .1 | 1 | 20 | |
| chloromethane | .62163 | .55045 | .1 | 11 | 20 | |
| vinyl chloride | .4285 | .39903 | .1 | 7 | 20 | |
| bromomethane | .32572 | .28015 | .1 | 14 | 20 | |
| chloroethane | .35035 | .28799 | .1 | 18 | 20 | |
| trichlorofluoromethane | .6241 | .65331 | .1 | -5 | 20 | |
| ethyl ether | .13811 | .11983 | .05 | 13 | 20 | |
| acetone | 100 | 79.585 | .1 | 20 | 20 | F |
| 1,1,-dichloroethene | .31495 | .29206 | .1 | 7 | 20 | |
| methylene chloride | .34246 | .32235 | .1 | 6 | 20 | |
| carbon disulfide | .90993 | .78116 | .1 | 14 | 20 | |
| methyl tert butyl ether | .48005 | .36992 | .1 | 23 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .32566 | .1 | 10 | 20 | |
| Diisopropyl Ether | 1.1682 | .95486 | .05 | 18 | 20 | |
| 1,1-dichloroethane | .70419 | .6184 | .2 | 12 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .55214 | .05 | 24 | 20 | F |
| 2-butanone | .06714 | .05427 | .1 | 19 | 20 | F |
| 2,2-dichloropropane | .34238 | .32532 | .05 | 5 | 20 | |
| cis-1,2-dichloroethene | .37932 | .37314 | .1 | 2 | 20 | |
| chloroform | .61594 | .58733 | .2 | 5 | 20 | |
| bromochloromethane | .12887 | .12827 | .05 | 0 | 20 | |
| tetrahydrofuran | .04454 | .0345 | .05 | 23 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .44105 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .52258 | .46887 | .05 | 10 | 20 | |
| carbontetrachloride | .35402 | .33643 | .1 | 5 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .3695 | .05 | 21 | 20 | F |
| 1,2-dichloroethane | .39579 | .34919 | .1 | 12 | 20 | |
| benzene | 1.5397 | 1.4156 | .5 | 8 | 20 | |
| trichloroethene | .37211 | .34913 | .2 | 6 | 20 | |
| 1,2-dichloropropane | .35603 | .31759 | .1 | 11 | 20 | |
| bromodichloromethane | .35384 | .33191 | .2 | 6 | 20 | |
| 1,4-dioxane | .00109 | .0012 | .05 | -10 | 20 | F |
| dibromomethane | .12703 | .13151 | .05 | -4 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03973 | .1 | 18 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .32979 | .2 | 21 | 20 | F |
| toluene | 1.2794 | 1.162 | .4 | 9 | 20 | |
| trans-1,3-dichloropropene | .38217 | .29781 | .1 | 22 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .20432 | .1 | 6 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018523

Instrument ID: Quimby.i  Calibration Date: 22-NOV-2010  Time: 05:50

Lab File ID: 1122A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09837 | .1 | 22 | 20 | F |
| 1,3-dichloropropane | .48008 | .43851 | .05 | 9 | 20 | |
| tetrachloroethene | .50656 | .5377 | .2 | -6 | 20 | |
| chlorodibromomethane | .22898 | .21465 | .1 | 6 | 20 | |
| 1,2-dibromoethane | .21845 | .20552 | .1 | 6 | 20 | |
| chlorobenzene | 1.3784 | 1.2732 | .5 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .32403 | .05 | 5 | 20 | |
| ethyl benzene | 2.6402 | 2.4924 | .1 | 6 | 20 | |
| p/m xylene | 1.0415 | 1.0028 | .1 | 4 | 20 | |
| o xylene | .99264 | .93583 | .3 | 6 | 20 | |
| styrene | 1.5901 | 1.4821 | .31 | 7 | 20 | |
| isopropylbenzene | 2.7063 | 2.5874 | .1 | 4 | 20 | |
| bromoform | .16937 | .16494 | .1 | 3 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .41272 | .3 | 10 | 20 | |
| 1,2,3-trichloropropane | .359 | .31953 | .05 | 11 | 20 | |
| n-propylbenzene | 5.3817 | 4.8876 | .05 | 9 | 20 | |
| bromobenzene | .8701 | .86793 | .05 | 0 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.2488 | .05 | 13 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.2469 | .05 | 10 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9573 | .05 | 11 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8396 | .05 | 8 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4354 | .05 | 8 | 20 | |
| sec-butylbenzene | 4.6047 | 4.3209 | .05 | 6 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.6061 | .05 | -1 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.8181 | .6 | 3 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7770 | .5 | 1 | 20 | |
| n-butylbenzene | 4.0323 | 3.1323 | .05 | 22 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.5293 | .4 | 3 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 81.682 | .05 | 18 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .70189 | .2 | 12 | 20 | |
| hexachlorobutadiene | .39925 | .39623 | .05 | 1 | 20 | |
| naphthalene | 1.1650 | .90958 | .05 | 22 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .51915 | .05 | 13 | 20 | |
| dibromofluoromethane | .2204 | .22385 | .05 | -2 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .2143 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.2554 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .89239 | .79622 | .05 | 11 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018523

Instrument ID: Quimby.i  Calibration Date: 20-NOV-2010  Time: 05:37

Lab File ID: 1120A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .4366 | .1 | -4 | 20 | |
| chloromethane | .62163 | .59085 | .1 | 5 | 20 | |
| vinyl chloride | .4285 | .43903 | .1 | -2 | 20 | |
| bromomethane | .32572 | .29594 | .1 | 9 | 20 | |
| chloroethane | .35035 | .31457 | .1 | 10 | 20 | |
| trichlorofluoromethane | .6241 | .66103 | .1 | -6 | 20 | |
| ethyl ether | .13811 | .1269 | .05 | 8 | 20 | |
| acetone | 100 | 76.276 | .1 | 24 | 20 | F |
| 1,1,-dichloroethene | .31495 | .2979 | .1 | 5 | 20 | |
| methylene chloride | .34246 | .32403 | .1 | 5 | 20 | |
| carbon disulfide | .90993 | .73137 | .1 | 20 | 20 | |
| methyl tert butyl ether | .48005 | .37979 | .1 | 21 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .33662 | .1 | 7 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0175 | .05 | 13 | 20 | |
| 1,1-dichloroethane | .70419 | .64115 | .2 | 9 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .58615 | .05 | 20 | 20 | |
| 2-butanone | .06714 | .0529 | .1 | 21 | 20 | F |
| 2,2-dichloropropane | .34238 | .31857 | .05 | 7 | 20 | |
| cis-1,2-dichloroethene | .37932 | .37771 | .1 | 0 | 20 | |
| chloroform | .61594 | .60757 | .2 | 1 | 20 | |
| bromochloromethane | .12887 | .13418 | .05 | -4 | 20 | |
| tetrahydrofuran | .04454 | .03592 | .05 | 19 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .42942 | .1 | 13 | 20 | |
| 1,1-dichloropropene | .52258 | .48557 | .05 | 7 | 20 | |
| carbontetrachloride | .35402 | .31491 | .1 | 11 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .39316 | .05 | 16 | 20 | |
| 1,2-dichloroethane | .39579 | .36676 | .1 | 7 | 20 | |
| benzene | 1.5397 | 1.4838 | .5 | 4 | 20 | |
| trichloroethene | .37211 | .36161 | .2 | 3 | 20 | |
| 1,2-dichloropropane | .35603 | .33536 | .1 | 6 | 20 | |
| bromodichloromethane | .35384 | .31405 | .2 | 11 | 20 | |
| 1,4-dioxane | .00109 | .00123 | .05 | -13 | 20 | F |
| dibromomethane | .12703 | .13678 | .05 | -8 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04044 | .1 | 16 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .32309 | .2 | 22 | 20 | F |
| toluene | 1.2794 | 1.2053 | .4 | 6 | 20 | |
| trans-1,3-dichloropropene | .38217 | .28071 | .1 | 27 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .20139 | .1 | 7 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018523

Instrument ID: Quimby.i  Calibration Date: 20-NOV-2010  Time: 05:37

Lab File ID: 1120A02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09364 | .1 | 26 | 20 | F |
| 1,3-dichloropropane | .48008 | .4327 | .05 | 10 | 20 | |
| tetrachloroethene | .50656 | .55363 | .2 | -9 | 20 | |
| chlorodibromomethane | .22898 | .19296 | .1 | 16 | 20 | |
| 1,2-dibromoethane | .21845 | .20102 | .1 | 8 | 20 | |
| chlorobenzene | 1.3784 | 1.3260 | .5 | 4 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .28976 | .05 | 15 | 20 | |
| ethyl benzene | 2.6402 | 2.6121 | .1 | 1 | 20 | |
| p/m xylene | 1.0415 | 1.0292 | .1 | 1 | 20 | |
| o xylene | .99264 | 1.0144 | .3 | -2 | 20 | |
| styrene | 1.5901 | 1.5644 | .31 | 2 | 20 | |
| isopropylbenzene | 2.7063 | 2.6919 | .1 | 1 | 20 | |
| bromoform | .16937 | .14686 | .1 | 13 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .39589 | .3 | 13 | 20 | |
| 1,2,3-trichloropropane | .359 | .31619 | .05 | 12 | 20 | |
| n-propylbenzene | 5.3817 | 5.1818 | .05 | 4 | 20 | |
| bromobenzene | .8701 | .85716 | .05 | 1 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.4080 | .05 | 9 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3847 | .05 | 6 | 20 | |
| 4-chorotoluene | 3.3404 | 3.0892 | .05 | 8 | 20 | |
| tert-butylbenzene | 3.0713 | 2.9461 | .05 | 4 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.6300 | .05 | 3 | 20 | |
| sec-butylbenzene | 4.6047 | 4.5125 | .05 | 2 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.6959 | .05 | -4 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.9389 | .6 | -3 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.8743 | .5 | -5 | 20 | |
| n-butylbenzene | 4.0323 | 3.2782 | .05 | 19 | 20 | |
| 1,2-dichlorobenzene | 1.5779 | 1.5607 | .4 | 1 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 66.342 | .05 | 34 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .69412 | .2 | 13 | 20 | |
| hexachlorobutadiene | .39925 | .40564 | .05 | -2 | 20 | |
| naphthalene | 1.1650 | .90197 | .05 | 23 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .49719 | .05 | 17 | 20 | |
| dibromofluoromethane | .2204 | .22217 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21714 | .05 | 4 | 20 | |
| toluene-d8 | 1.2994 | 1.2692 | .05 | 2 | 20 | |
| 4-bromofluorobenzene | .89239 | .82631 | .05 | 7 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018523

Instrument ID: Quimby.i  Calibration Date: 21-NOV-2010  Time: 07:05

Lab File ID: 1121A03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .44008 | .1 | -4 | 20 | |
| chloromethane | .62163 | .57708 | .1 | 7 | 20 | |
| vinyl chloride | .4285 | .42033 | .1 | 2 | 20 | |
| bromomethane | .32572 | .30143 | .1 | 7 | 20 | |
| chloroethane | .35035 | .30393 | .1 | 13 | 20 | |
| trichlorofluoromethane | .6241 | .68522 | .1 | -10 | 20 | |
| ethyl ether | .13811 | .12868 | .05 | 7 | 20 | |
| acetone | 100 | 81.941 | .1 | 18 | 20 | |
| 1,1,-dichloroethene | .31495 | .307 | .1 | 3 | 20 | |
| methylene chloride | .34246 | .32253 | .1 | 6 | 20 | |
| carbon disulfide | .90993 | .85908 | .1 | 6 | 20 | |
| methyl tert butyl ether | .48005 | .41326 | .1 | 14 | 20 | |
| trans-1,2-dichloroethene | .36264 | .33627 | .1 | 7 | 20 | |
| Diisopropyl Ether | 1.1682 | 1.0642 | .05 | 9 | 20 | |
| 1,1-dichloroethane | .70419 | .63509 | .2 | 10 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .61924 | .05 | 15 | 20 | |
| 2-butanone | .06714 | .06369 | .1 | 5 | 20 | F |
| 2,2-dichloropropane | .34238 | .34863 | .05 | -2 | 20 | |
| cis-1,2-dichloroethene | .37932 | .37635 | .1 | 1 | 20 | |
| chloroform | .61594 | .59881 | .2 | 3 | 20 | |
| bromochloromethane | .12887 | .1354 | .05 | -5 | 20 | |
| tetrahydrofuran | .04454 | .04129 | .05 | 7 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .46532 | .1 | 6 | 20 | |
| 1,1-dichloropropene | .52258 | .48631 | .05 | 7 | 20 | |
| carbontetrachloride | .35402 | .35552 | .1 | 0 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .42607 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .39579 | .35426 | .1 | 10 | 20 | |
| benzene | 1.5397 | 1.451 | .5 | 6 | 20 | |
| trichloroethene | .37211 | .3564 | .2 | 4 | 20 | |
| 1,2-dichloropropane | .35603 | .32791 | .1 | 8 | 20 | |
| bromodichloromethane | .35384 | .33438 | .2 | 6 | 20 | |
| 1,4-dioxane | .00109 | .00126 | .05 | -15 | 20 | F |
| dibromomethane | .12703 | .1359 | .05 | -7 | 20 | |
| 4-methyl-2-pentanone | .04832 | .04215 | .1 | 13 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .34298 | .2 | 18 | 20 | |
| toluene | 1.2794 | 1.1719 | .4 | 8 | 20 | |
| trans-1,3-dichloropropene | .38217 | .31058 | .1 | 19 | 20 | |
| 1,1,2-trichloroethane | .21745 | .20662 | .1 | 5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018523

Instrument ID: Quimby.i  Calibration Date: 21-NOV-2010  Time: 07:05

Lab File ID: 1121A03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .10384 | .1 | 18 | 20 | |
| 1,3-dichloropropane | .48008 | .44897 | .05 | 6 | 20 | |
| tetrachloroethene | .50656 | .54644 | .2 | -8 | 20 | |
| chlorodibromomethane | .22898 | .22906 | .1 | 0 | 20 | |
| 1,2-dibromoethane | .21845 | .20833 | .1 | 5 | 20 | |
| chlorobenzene | 1.3784 | 1.2801 | .5 | 7 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .318 | .05 | 6 | 20 | |
| ethyl benzene | 2.6402 | 2.4856 | .1 | 6 | 20 | |
| p/m xylene | 1.0415 | 1.0083 | .1 | 3 | 20 | |
| o xylene | .99264 | .98357 | .3 | 1 | 20 | |
| styrene | 1.5901 | 1.5287 | .31 | 4 | 20 | |
| isopropylbenzene | 2.7063 | 2.5783 | .1 | 5 | 20 | |
| bromoform | .16937 | .18228 | .1 | -8 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .42252 | .3 | 8 | 20 | |
| 1,2,3-trichloropropane | .359 | .33757 | .05 | 6 | 20 | |
| n-propylbenzene | 5.3817 | 5.0661 | .05 | 6 | 20 | |
| bromobenzene | .8701 | .9079 | .05 | -4 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.3120 | .05 | 11 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.3038 | .05 | 9 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9873 | .05 | 11 | 20 | |
| tert-butylbenzene | 3.0713 | 2.9530 | .05 | 4 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4941 | .05 | 7 | 20 | |
| sec-butylbenzene | 4.6047 | 4.4312 | .05 | 4 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.6055 | .05 | -1 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.8715 | .6 | 0 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.8354 | .5 | -3 | 20 | |
| n-butylbenzene | 4.0323 | 3.1241 | .05 | 23 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.5447 | .4 | 2 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 86.616 | .05 | 13 | 20 | |
| 1,2,4-trichlorobenzene | .80062 | .70039 | .2 | 13 | 20 | |
| hexachlorobutadiene | .39925 | .4045 | .05 | -1 | 20 | |
| naphthalene | 1.1650 | .94367 | .05 | 19 | 20 | |
| 1,2,3-trichlorobenzene | .59583 | .52758 | .05 | 11 | 20 | |
| dibromofluoromethane | .2204 | .22757 | .05 | -3 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21489 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.2630 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .89239 | .82402 | .05 | 8 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018656 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/23/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018656-01 | APS-118-70.0-20101118-01 | WAYLAND, MA | 11/18/10 17:01 |
| L1018656-02 | APS-119-63.7-20101118-01 | WAYLAND, MA | 11/18/10 16:25 |
| L1018656-03 | APS-121-20.0-20101119-01 | WAYLAND, MA | 11/19/10 08:31 |
| L1018656-04 | APS-118-75.0-20101119-01 | WAYLAND, MA | 11/19/10 08:25 |
| L1018656-05 | APS-121-25.0-20101119-01 | WAYLAND, MA | 11/19/10 08:58 |
| L1018656-06 | APS-121-30.0-20101119-01 | WAYLAND, MA | 11/19/10 09:35 |
| L1018656-07 | APS-121-35.0-20101119-01 | WAYLAND, MA | 11/19/10 10:03 |
| L1018656-08 | APS-120-20.0-20101119-01 | WAYLAND, MA | 11/19/10 10:06 |
| L1018656-09 | APS-121-40.0-20101119-01 | WAYLAND, MA | 11/19/10 10:45 |
| L1018656-10 | APS-120-25.0-20101119-01 | WAYLAND, MA | 11/19/10 10:38 |
| L1018656-11 | APS-121-45.0-20101119-01 | WAYLAND, MA | 11/19/10 11:19 |
| L1018656-12 | APS-120-30.0-20101119-01 | WAYLAND, MA | 11/19/10 11:13 |
| L1018656-13 | APS-120-35.0-20101119-01 | WAYLAND, MA | 11/19/10 11:45 |
| L1018656-14 | APS-120-40.0-20101119-01 | WAYLAND, MA | 11/19/10 12:16 |
| L1018656-15 | APS-121-50.0-20101119-01 | WAYLAND, MA | 11/19/10 11:54 |
| L1018656-16 | APS-120-45.0-20101119-01 | WAYLAND, MA | 11/19/10 12:56 |
| L1018656-17 | APS-121-53.7-20101119-01 | WAYLAND, MA | 11/19/10 12:55 |
| L1018656-18 | APS-120-50.0-20101119-01 | WAYLAND, MA | 11/19/10 13:41 |
| L1018656-19 | APS-120-55.0-20101119-01 | WAYLAND, MA | 11/19/10 14:15 |
| L1018656-20 | APS-121-59.0-20101119-01 | WAYLAND, MA | 11/19/10 14:21 |
| L1018656-21 | APS-120-60.0-20101119-01 | WAYLAND, MA | 11/19/10 14:54 |
| L1018656-22 | APS-121-64.8-20101119-01 | WAYLAND, MA | 11/19/10 15:04 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018656
**Project Number:** 0114119 **Report Date:** 11/23/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG444496-1 LCS recovery, associated with L1018656-01 through -16, is below the acceptance criteria for 1,2-Dibromo-3-chloropropane (68%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG444573-1/-2 LCS/LCSD recoveries, associated with L1018656-17 through -22, are below the individual acceptance criteria for trans-1,3-Dichloropropene (LCSD at 62%), cis-1,3-Dichloropropene (LCSD at 69%), n-Butylbenzene (66%/65%) and Naphthalene (69%/65%), but within the overall method allowances.

**Project Name:** RAYTHEON **Lab Number:** L1018656
**Project Number:** 0114119 **Report Date:** 11/23/10

**Case Narrative (continued)**

The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG444573-1/-2 LCS/LCSD recoveries, associated with L1018656-17 through -22, are below the acceptance criteria for Acetone (LCSD at 62%), 2-Hexanone (LCSD at 68%) and 1,2-Dibromo-3-chloropropane (65%/55%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The initial calibration, associated with L1018656-01 through -22, did not meet the method required minimum response factor for 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, and 1,4-Dioxane; and utilized a quadratic fit for Acetone and 1,2-Dibromo-3-chloropropane.

The continuing calibration standards, associated with L1018656-01 through -22, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 11/23/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-01 | Date Collected: | 11/18/10 17:01 |
| Client ID: | APS-118-70.0-20101118-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 19:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 5.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 59 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-01 Date Collected: 11/18/10 17:01

Client ID: APS-118-70.0-20101118-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.8 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-01 | Date Collected: | 11/18/10 17:01 |
| Client ID: | APS-118-70.0-20101118-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-02 | Date Collected: | 11/18/10 16:25 |
| Client ID: | APS-119-63.7-20101118-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 20:14 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-02 Date Collected: 11/18/10 16:25

Client ID: APS-119-63.7-20101118-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-02 | Date Collected: | 11/18/10 16:25 |
| Client ID: | APS-119-63.7-20101118-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-03 | Date Collected: | 11/19/10 08:31 |
| Client ID: | APS-121-20.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 20:45 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-03 Date Collected: 11/19/10 08:31

Client ID: APS-121-20.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 2.0 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-03 | Date Collected: | 11/19/10 08:31 |
| Client ID: | APS-121-20.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 89 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-04 | Date Collected: | 11/19/10 08:25 |
| Client ID: | APS-118-75.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 21:17 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.8 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 58 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-04 Date Collected: 11/19/10 08:25

Client ID: APS-118-75.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 18 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-04 | Date Collected: | 11/19/10 08:25 |
| Client ID: | APS-118-75.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-05 | Date Collected: | 11/19/10 08:58 |
| Client ID: | APS-121-25.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 21:48 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-05 Date Collected: 11/19/10 08:58

Client ID: APS-121-25.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-05 | Date Collected: | 11/19/10 08:58 |
| Client ID: | APS-121-25.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-06 | Date Collected: | 11/19/10 09:35 |
| Client ID: | APS-121-30.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 22:20 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-06 Date Collected: 11/19/10 09:35

Client ID: APS-121-30.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-06 | Date Collected: | 11/19/10 09:35 |
| Client ID: | APS-121-30.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-07 | Date Collected: | 11/19/10 10:03 |
| Client ID: | APS-121-35.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 22:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-07 Date Collected: 11/19/10 10:03

Client ID: APS-121-35.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-07 | Date Collected: | 11/19/10 10:03 |
| Client ID: | APS-121-35.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-08 | Date Collected: | 11/19/10 10:06 |
| Client ID: | APS-120-20.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 23:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-08 Date Collected: 11/19/10 10:06

Client ID: APS-120-20.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-08 | Date Collected: | 11/19/10 10:06 |
| Client ID: | APS-120-20.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-09 | Date Collected: | 11/19/10 10:45 |
| Client ID: | APS-121-40.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/22/10 23:54 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-09 Date Collected: 11/19/10 10:45

Client ID: APS-121-40.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-09 | Date Collected: | 11/19/10 10:45 |
| Client ID: | APS-121-40.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-10 | Date Collected: | 11/19/10 10:38 |
| Client ID: | APS-120-25.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 00:26 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-10 Date Collected: 11/19/10 10:38

Client ID: APS-120-25.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-10 | Date Collected: | 11/19/10 10:38 |
| Client ID: | APS-120-25.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 90 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-11 | Date Collected: | 11/19/10 11:19 |
| Client ID: | APS-121-45.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 00:57 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-11 Date Collected: 11/19/10 11:19

Client ID: APS-121-45.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-11 | Date Collected: | 11/19/10 11:19 |
| Client ID: | APS-121-45.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-12 | Date Collected: | 11/19/10 11:13 |
| Client ID: | APS-120-30.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 01:29 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-12 Date Collected: 11/19/10 11:13

Client ID: APS-120-30.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-12 | Date Collected: | 11/19/10 11:13 |
| Client ID: | APS-120-30.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-13 | Date Collected: | 11/19/10 11:45 |
| Client ID: | APS-120-35.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 02:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-13 Date Collected: 11/19/10 11:45

Client ID: APS-120-35.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-13 | Date Collected: | 11/19/10 11:45 |
| Client ID: | APS-120-35.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 93 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-14 | Date Collected: | 11/19/10 12:16 |
| Client ID: | APS-120-40.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 02:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-14 Date Collected: 11/19/10 12:16

Client ID: APS-120-40.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-14 | Date Collected: | 11/19/10 12:16 |
| Client ID: | APS-120-40.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-15 | Date Collected: | 11/19/10 11:54 |
| Client ID: | APS-121-50.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 03:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-15 Date Collected: 11/19/10 11:54

Client ID: APS-121-50.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-15 | Date Collected: | 11/19/10 11:54 |
| Client ID: | APS-121-50.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-16 | Date Collected: | 11/19/10 12:56 |
| Client ID: | APS-120-45.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 03:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-16 Date Collected: 11/19/10 12:56

Client ID: APS-120-45.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-16 | Date Collected: | 11/19/10 12:56 |
| Client ID: | APS-120-45.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-17 | Date Collected: | 11/19/10 12:55 |
| Client ID: | APS-121-53.7-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 10:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-17 Date Collected: 11/19/10 12:55

Client ID: APS-121-53.7-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 2.2 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-17 | Date Collected: | 11/19/10 12:55 |
| Client ID: | APS-121-53.7-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-18 | Date Collected: | 11/19/10 13:41 |
| Client ID: | APS-120-50.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 10:44 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 29 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-18 Date Collected: 11/19/10 13:41

Client ID: APS-120-50.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-18 | Date Collected: | 11/19/10 13:41 |
| Client ID: | APS-120-50.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-19 | Date Collected: | 11/19/10 14:15 |
| Client ID: | APS-120-55.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 11:16 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 32 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-19 Date Collected: 11/19/10 14:15

Client ID: APS-120-55.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.6 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-19 | Date Collected: | 11/19/10 14:15 |
| Client ID: | APS-120-55.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-20 | Date Collected: | 11/19/10 14:21 |
| Client ID: | APS-121-59.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 11:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.5 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 3.6 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 15 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-20 Date Collected: 11/19/10 14:21

Client ID: APS-121-59.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-20 | Date Collected: | 11/19/10 14:21 |
| Client ID: | APS-121-59.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-21 | Date Collected: | 11/19/10 14:54 |
| Client ID: | APS-120-60.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 12:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 37 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-21 Date Collected: 11/19/10 14:54

Client ID: APS-120-60.0-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 3.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-21 | Date Collected: | 11/19/10 14:54 |
| Client ID: | APS-120-60.0-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-22 | Date Collected: | 11/19/10 15:04 |
| Client ID: | APS-121-64.8-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 12:50 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 19 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

Lab ID: L1018656-22 Date Collected: 11/19/10 15:04

Client ID: APS-121-64.8-20101119-01 Date Received: 11/19/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 3.6 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018656-22 | Date Collected: | 11/19/10 15:04 |
| Client ID: | APS-121-64.8-20101119-01 | Date Received: | 11/19/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/22/10 18:08
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-16 Batch: WG444496-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/22/10 18:08
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-16 Batch: WG444496-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/22/10 18:08
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-16 Batch: WG444496-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 09:41
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 17-22 Batch: WG444573-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 09:41
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 17-22 Batch: WG444573-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018656

**Project Number:** 0114119 **Report Date:** 11/23/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 09:41
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 17-22 Batch: WG444573-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG444496-1 WG444496-2 | | | | | | | | |
| Methylene chloride | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| Chloroform | 96 | | 95 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 92 | | 96 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 92 | | 91 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 83 | | 85 | | 70-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 86 | | 90 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 105 | | 105 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 91 | | 89 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,2-Dichloroethane | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 89 | | 90 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 71 | | 74 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 75 | | 79 | | 70-130 | 5 | | 20 |
| 1,1-Dichloropropene | 93 | | 93 | | 70-130 | 0 | | 20 |
| Bromoform | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 86 | | 92 | | 70-130 | 7 | | 20 |
| Benzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Toluene | 89 | | 89 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 92 | | 92 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG444496-1 WG444496-2 | | | | | | | | |
| Chloromethane | 88 | | 88 | | 70-130 | 0 | | 20 |
| Bromomethane | 80 | | 86 | | 70-130 | 7 | | 20 |
| Vinyl chloride | 98 | | 96 | | 70-130 | 2 | | 20 |
| Chloroethane | 86 | | 85 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 97 | | 98 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Trichloroethene | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 101 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 78 | | 79 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 94 | | 94 | | 70-130 | 0 | | 20 |
| o-Xylene | 94 | | 92 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 102 | | 70-130 | 2 | | 20 |
| Dibromomethane | 107 | | 103 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 88 | | 70-130 | 1 | | 20 |
| Styrene | 90 | | 90 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 103 | | 101 | | 70-130 | 2 | | 20 |
| Acetone | 71 | | 75 | | 70-130 | 5 | | 20 |
| Carbon disulfide | 84 | | 86 | | 70-130 | 2 | | 20 |
| 2-Butanone | 85 | | 89 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG444496-1 WG444496-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 80 | | 82 | | 70-130 | 2 | | 20 |
| 2-Hexanone | 72 | | 80 | | 70-130 | 11 | | 20 |
| Bromochloromethane | 104 | | 105 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 78 | | 83 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 96 | | 99 | | 70-130 | 3 | | 20 |
| 1,2-Dibromoethane | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 88 | | 90 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 86 | | 91 | | 70-130 | 6 | | 20 |
| Bromobenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 78 | | 75 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 90 | | 88 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 89 | | 87 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | **68** | Q | 80 | | 70-130 | 16 | | 20 |
| Hexachlorobutadiene | 101 | | 96 | | 70-130 | 5 | | 20 |
| Isopropylbenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Naphthalene | 78 | | 77 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 84 | | 84 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG444496-1 WG444496-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 88 | | 87 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Ethyl ether | 89 | | 86 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 85 | | 85 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 78 | | 79 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 79 | | 83 | | 70-130 | 5 | | 20 |
| 1,4-Dioxane | 102 | | 110 | | 70-130 | 8 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 94 | | 70-130 |
| Toluene-d8 | 95 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 90 | | 89 | | 70-130 |
| Dibromofluoromethane | 101 | | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-22 Batch: WG444573-1 WG444573-2 | | | | | | | | |
| Methylene chloride | 91 | | 88 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 86 | | 86 | | 70-130 | 0 | | 20 |
| Chloroform | 88 | | 102 | | 70-130 | 15 | | 20 |
| Carbon tetrachloride | 85 | | 81 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 84 | | 83 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 80 | | 72 | | 70-130 | 11 | | 20 |
| 1,1,2-Trichloroethane | 82 | | 82 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 97 | | 87 | | 70-130 | 11 | | 20 |
| 1,2-Dichloroethane | 84 | | 81 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 85 | | 81 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 81 | | 78 | | 70-130 | 4 | | 20 |
| trans-1,3-Dichloropropene | 72 | | **62** | Q | 70-130 | 15 | | 20 |
| cis-1,3-Dichloropropene | 78 | | **69** | Q | 70-130 | 12 | | 20 |
| 1,1-Dichloropropene | 85 | | 85 | | 70-130 | 0 | | 20 |
| Bromoform | 80 | | 75 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 82 | | 78 | | 70-130 | 5 | | 20 |
| Benzene | 89 | | 89 | | 70-130 | 0 | | 20 |
| Toluene | 85 | | 85 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 86 | | 86 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-22 Batch: WG444573-1 WG444573-2 | | | | | | | | |
| Chloromethane | 88 | | 85 | | 70-130 | 3 | | 20 |
| Bromomethane | 88 | | 85 | | 70-130 | 3 | | 20 |
| Vinyl chloride | 89 | | 86 | | 70-130 | 3 | | 20 |
| Chloroethane | 82 | | 80 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethene | 92 | | 91 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 89 | | 87 | | 70-130 | 2 | | 20 |
| Trichloroethene | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 90 | | 86 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 89 | | 87 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 79 | | 73 | | 70-130 | 8 | | 20 |
| p/m-Xylene | 89 | | 87 | | 70-130 | 2 | | 20 |
| o-Xylene | 90 | | 88 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Dibromomethane | 102 | | 93 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichloropropane | 83 | | 77 | | 70-130 | 8 | | 20 |
| Styrene | 87 | | 85 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| Acetone | 72 | | **62** | Q | 70-130 | 15 | | 20 |
| Carbon disulfide | 75 | | 74 | | 70-130 | 1 | | 20 |
| 2-Butanone | 83 | | 78 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-22 Batch: WG444573-1 WG444573-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 81 | | 79 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 75 | | **68** | Q | 70-130 | 10 | | 20 |
| Bromochloromethane | 101 | | 97 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 78 | | 76 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 86 | | 81 | | 70-130 | 6 | | 20 |
| 1,3-Dichloropropane | 84 | | 79 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | 80 | | 74 | | 70-130 | 8 | | 20 |
| Bromobenzene | 93 | | 89 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | **66** | Q | **65** | Q | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 83 | | 80 | | 70-130 | 4 | | 20 |
| tert-Butylbenzene | 83 | | 82 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 80 | | 79 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 80 | | 79 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | **65** | Q | **55** | Q | 70-130 | 17 | | 20 |
| Hexachlorobutadiene | 88 | | 85 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 86 | | 85 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 87 | | 86 | | 70-130 | 1 | | 20 |
| Naphthalene | **69** | Q | **65** | Q | 70-130 | 6 | | 20 |
| n-Propylbenzene | 81 | | 81 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 77 | | 74 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018656
**Report Date:** 11/23/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-22 Batch: WG444573-1 WG444573-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 82 | | 76 | | 70-130 | 8 | | 20 |
| 1,3,5-Trimethylbenzene | 80 | | 75 | | 70-130 | 6 | | 20 |
| 1,2,4-Trimethylbenzene | 84 | | 82 | | 70-130 | 2 | | 20 |
| Ethyl ether | 86 | | 87 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 82 | | 79 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 78 | | 74 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 82 | | 77 | | 70-130 | 6 | | 20 |
| 1,4-Dioxane | 100 | | 94 | | 70-130 | 6 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 92 | | 70-130 |
| Toluene-d8 | 94 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 89 | | 89 | | 70-130 |
| Dibromofluoromethane | 103 | | 102 | | 70-130 |

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## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018656-01A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-01B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-02A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-02B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-03A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-03B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-04A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-04B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-05A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-05B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-06A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-06B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-07A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-07B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-08A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-08B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-09A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-09B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-10A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-10B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-11A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-11B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-12A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-12B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-13A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-13B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-14A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

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**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018656-14B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-15A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-15B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-16A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-16B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-17A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-17B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-18A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-18B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-19A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-19B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-20A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-20B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-21A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-21B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-22A | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |
| L1018656-22B | Vial HCl preserved | A | N/A | 3.7 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018656 |
| **Project Number:** | 0114119 | **Report Date:** | 11/23/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018656 |
| **Project Number:** | 0114119 | **Report Date:** | 11/23/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018656
**Project Number:** 0114119 **Report Date:** 11/23/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 11/19/10

ALPHA Job #: L1018656

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Serial No:11231014:30

## Client Information

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0214119
Project Manager: JASON FLATTERY
ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.
Date Due: 11/23/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8666 1 | APS-116-70.0-20101118-01 | 11/18/10 | 1701 | GW | LSM | d | | |
| 2 | APS-119-63.7-20101118-01 | 11/18/10 | 1625 | | | | | |
| 3 | APS-121-20.0-20101119-01 | 11/19/10 | 0931 | | | | | |
| 4 | APS-118-75.0-20101119-01 | 11/19/10 | 0825 | | | | | |
| 5 | APS-121-25.0-20101119-01 | 11/19/10 | 0858 | | | | | |
| 6 | APS-121-30.0-20101119-01 | 11/19/10 | 0935 | | | | | |
| 7 | APS-121-35.0-20101119-01 | 11/19/10 | 1003 | | | | | |
| 8 | APS-120-20.0-20101119-01 | 11/19/10 | 1006 | | | | | |
| 9 | APS-121-40.0-20101119-01 | 11/19/10 | 1045 | | | | | |
| 10 | APS-120-25.0-20101119-01 | 11/19/10 | 1038 | | | | | |

| | |
|---|---|
| Container Type | 0/A |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/19/10 1520 | [signature] | 11/19/10 1520 |
| P. Gillard | 11/19/10 17:15 | [signature] | 11/19/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/19/10

ALPHA Job #: L1018656

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: WAYLAND-RAYthEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48hr.

Date Due: 11/23/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18656 11 | APS-121-45.0-20101119-01 | 11/19/10 | 1119 | GW | LJM | 2 | | |
| 12 | APS-120-30.0-20101119-01 | ↓ | 1113 | ↓ | ↓ | ↓ | | |
| 13 | APS-120-35.0-20101119-01 | | 1145 | | | | | |
| 14 | APS-120-40.0-20101119-01 | | 1216 | | | | | |
| 15 | APS-121-50.0-20101119-01 | | 1154 | | | | | |
| 16 | APS-120-45.0-20101119-01 | | 1256 | | | | | |
| 17 | APS-121-53.7-20101119-01 | | 1255 | | | | | |
| 18 | APS-120-50.0-20101119-01 | | 1341 | | | | | |
| 19 | APS-120-55.0-20101119-01 | | 1415 | | | | | |
| 20 | APS-121-59.0-20101119-01 | | 1421 | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/19/2010 1520 | P. Gillett | 11/19/10 1520 |
| P. Gillett | 11/19/10 17:15 | [signature] | 11/19/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial No:11231014:30

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/19/10

ALPHA Job #: L1018656

## Client Information

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: WAYLAND- RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved!) 48 hr.

Date Due: 11/23/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 16656 21 | APS-120-60.0-20101119-01 | 11/19/2010 | 1454 | GW | LJM | 2 | | |
| 22 | APS-121-64.8-20101119-01 | | 1504 | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/19/2010 1520 | P. Gilbert | 11/19/10 15:20 |
| P. Gilbert | 11/19/10 17:15 | [signature] | 11/19/10 1715 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11231014:30

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018656

Instrument ID: Quimby.i  Calibration Date: 22-NOV-2010  Time: 16:34

Lab File ID: 1122N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .43434 | .1 | -3 | 20 | |
| chloromethane | .62163 | .54871 | .1 | 12 | 20 | |
| vinyl chloride | .4285 | .41791 | .1 | 2 | 20 | |
| bromomethane | .32572 | .26013 | .1 | 20 | 20 | F |
| chloroethane | .35035 | .30205 | .1 | 14 | 20 | |
| trichlorofluoromethane | .6241 | .59398 | .1 | 5 | 20 | |
| ethyl ether | .13811 | .12311 | .05 | 11 | 20 | |
| acetone | 100 | 71.321 | .1 | 29 | 20 | F |
| 1,1,-dichloroethene | .31495 | .30444 | .1 | 3 | 20 | |
| methylene chloride | .34246 | .32729 | .1 | 4 | 20 | |
| carbon disulfide | .90993 | .7684 | .1 | 16 | 20 | |
| methyl tert butyl ether | .48005 | .37664 | .1 | 22 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .33809 | .1 | 7 | 20 | |
| Diisopropyl Ether | 1.1682 | .99789 | .05 | 15 | 20 | |
| 1,1-dichloroethane | .70419 | .636 | .2 | 10 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .57093 | .05 | 22 | 20 | F |
| 2-butanone | .06714 | .0571 | .1 | 15 | 20 | F |
| 2,2-dichloropropane | .34238 | .3295 | .05 | 4 | 20 | |
| cis-1,2-dichloroethene | .37932 | .37769 | .1 | 0 | 20 | |
| chloroform | .61594 | .58963 | .2 | 4 | 20 | |
| bromochloromethane | .12887 | .13374 | .05 | -4 | 20 | |
| tetrahydrofuran | .04454 | .03483 | .05 | 22 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .44232 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .52258 | .4882 | .05 | 7 | 20 | |
| carbontetrachloride | .35402 | .3271 | .1 | 8 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .36705 | .05 | 21 | 20 | F |
| 1,2-dichloroethane | .39579 | .36214 | .1 | 9 | 20 | |
| benzene | 1.5397 | 1.4735 | .5 | 4 | 20 | |
| trichloroethene | .37211 | .36158 | .2 | 3 | 20 | |
| 1,2-dichloropropane | .35603 | .32582 | .1 | 8 | 20 | |
| bromodichloromethane | .35384 | .31364 | .2 | 11 | 20 | |
| 1,4-dioxane | .00109 | .00112 | .05 | -2 | 20 | F |
| dibromomethane | .12703 | .13637 | .05 | -7 | 20 | |
| 4-methyl-2-pentanone | .04832 | .03885 | .1 | 20 | 20 | F |
| cis-1,3-dichloropropene | .41611 | .31371 | .2 | 25 | 20 | F |
| toluene | 1.2794 | 1.1413 | .4 | 11 | 20 | |
| trans-1,3-dichloropropene | .38217 | .27006 | .1 | 29 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .18762 | .1 | 14 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018656

Instrument ID: Quimby.i  Calibration Date: 22-NOV-2010  Time: 16:34

Lab File ID: 1122N02  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .09136 | .1 | 28 | 20 | F |
| 1,3-dichloropropane | .48008 | .4206 | .05 | 12 | 20 | |
| tetrachloroethene | .50656 | .5306 | .2 | -5 | 20 | |
| chlorodibromomethane | .22898 | .19054 | .1 | 17 | 20 | |
| 1,2-dibromoethane | .21845 | .19579 | .1 | 10 | 20 | |
| chlorobenzene | 1.3784 | 1.2531 | .5 | 9 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .29118 | .05 | 14 | 20 | |
| ethyl benzene | 2.6402 | 2.4353 | .1 | 8 | 20 | |
| p/m xylene | 1.0415 | .98066 | .1 | 6 | 20 | |
| o xylene | .99264 | .93226 | .3 | 6 | 20 | |
| styrene | 1.5901 | 1.4305 | .31 | 10 | 20 | |
| isopropylbenzene | 2.7063 | 2.5187 | .1 | 7 | 20 | |
| bromoform | .16937 | .15088 | .1 | 11 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .39317 | .3 | 14 | 20 | |
| 1,2,3-trichloropropane | .359 | .31789 | .05 | 11 | 20 | |
| n-propylbenzene | 5.3817 | 4.9411 | .05 | 8 | 20 | |
| bromobenzene | .8701 | .85628 | .05 | 2 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 3.2700 | .05 | 12 | 20 | |
| 2-chlorotoluene | 3.6146 | 3.2451 | .05 | 10 | 20 | |
| 4-chorotoluene | 3.3404 | 2.9593 | .05 | 11 | 20 | |
| tert-butylbenzene | 3.0713 | 2.8927 | .05 | 6 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.4595 | .05 | 8 | 20 | |
| sec-butylbenzene | 4.6047 | 4.3566 | .05 | 5 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.5421 | .05 | 1 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.8111 | .6 | 3 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.7812 | .5 | 1 | 20 | |
| n-butylbenzene | 4.0323 | 3.1346 | .05 | 22 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.5235 | .4 | 3 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 68.527 | .05 | 31 | 20 | F |
| 1,2,4-trichlorobenzene | .80062 | .69092 | .2 | 14 | 20 | |
| hexachlorobutadiene | .39925 | .40515 | .05 | -1 | 20 | |
| naphthalene | 1.1650 | .91033 | .05 | 22 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .50115 | .05 | 16 | 20 | |
| dibromofluoromethane | .2204 | .22187 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .21486 | .05 | 5 | 20 | |
| toluene-d8 | 1.2994 | 1.2320 | .05 | 5 | 20 | |
| 4-bromofluorobenzene | .89239 | .80204 | .05 | 10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018656

Instrument ID: Quimby.i  Calibration Date: 23-NOV-2010  Time: 09:10

Lab File ID: 1123B03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .42114 | .41229 | .1 | 2 | 20 | |
| chloromethane | .62163 | .54549 | .1 | 12 | 20 | |
| vinyl chloride | .4285 | .38147 | .1 | 11 | 20 | |
| bromomethane | .32572 | .28831 | .1 | 11 | 20 | |
| chloroethane | .35035 | .28678 | .1 | 18 | 20 | |
| trichlorofluoromethane | .6241 | .6051 | .1 | 3 | 20 | |
| ethyl ether | .13811 | .11947 | .05 | 14 | 20 | |
| acetone | 100 | 72.508 | .1 | 27 | 20 | F |
| 1,1,-dichloroethene | .31495 | .28812 | .1 | 9 | 20 | |
| methylene chloride | .34246 | .3106 | .1 | 9 | 20 | |
| carbon disulfide | .90993 | .68259 | .1 | 25 | 20 | F |
| methyl tert butyl ether | .48005 | .3777 | .1 | 21 | 20 | F |
| trans-1,2-dichloroethene | .36264 | .32133 | .1 | 11 | 20 | |
| Diisopropyl Ether | 1.1682 | .96233 | .05 | 18 | 20 | |
| 1,1-dichloroethane | .70419 | .60816 | .2 | 14 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7286 | .57193 | .05 | 22 | 20 | F |
| 2-butanone | .06714 | .05581 | .1 | 17 | 20 | F |
| 2,2-dichloropropane | .34238 | .31404 | .05 | 8 | 20 | |
| cis-1,2-dichloroethene | .37932 | .36124 | .1 | 5 | 20 | |
| chloroform | .61594 | .54533 | .2 | 11 | 20 | |
| bromochloromethane | .12887 | .13059 | .05 | -1 | 20 | |
| tetrahydrofuran | .04454 | .03488 | .05 | 22 | 20 | F |
| 1,1,1-trichloroethane | .49271 | .418 | .1 | 15 | 20 | |
| 1,1-dichloropropene | .52258 | .44529 | .05 | 15 | 20 | |
| carbontetrachloride | .35402 | .3015 | .1 | 15 | 20 | |
| Tertiary-Amyl Methyl Ether | .46697 | .38231 | .05 | 18 | 20 | |
| 1,2-dichloroethane | .39579 | .3326 | .1 | 16 | 20 | |
| benzene | 1.5397 | 1.3681 | .5 | 11 | 20 | |
| trichloroethene | .37211 | .33502 | .2 | 10 | 20 | |
| 1,2-dichloropropane | .35603 | .29991 | .1 | 16 | 20 | |
| bromodichloromethane | .35384 | .28727 | .2 | 19 | 20 | |
| 1,4-dioxane | .00109 | .00109 | .05 | 0 | 20 | F |
| dibromomethane | .12703 | .12979 | .05 | -2 | 20 | |
| 4-methyl-2-pentanone | .04713 | .0383 | .1 | 19 | 20 | F |
| cis-1,3-dichloropropene | .39565 | .31072 | .2 | 21 | 20 | F |
| toluene | 1.2794 | 1.0925 | .4 | 15 | 20 | |
| trans-1,3-dichloropropene | .38217 | .27387 | .1 | 28 | 20 | F |
| 1,1,2-trichloroethane | .21745 | .17916 | .1 | 18 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018656

Instrument ID: Quimby.i  Calibration Date: 23-NOV-2010  Time: 09:10

Lab File ID: 1123B03  Init. Calib. Date(s): 28-OCT-2  28-OCT-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:57  14:29

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .12616 | .0946 | .1 | 25 | 20 | F |
| 1,3-dichloropropane | .48008 | .40264 | .05 | 16 | 20 | |
| tetrachloroethene | .50656 | .4984 | .2 | 2 | 20 | |
| chlorodibromomethane | .22898 | .18228 | .1 | 20 | 20 | F |
| 1,2-dibromoethane | .21845 | .18725 | .1 | 14 | 20 | |
| chlorobenzene | 1.3784 | 1.1816 | .5 | 14 | 20 | |
| 1,1,1,2-tetrachloroethane | .33964 | .27294 | .05 | 20 | 20 | |
| ethyl benzene | 2.6402 | 2.2638 | .1 | 14 | 20 | |
| p/m xylene | 1.0415 | .93004 | .1 | 11 | 20 | |
| o xylene | .99264 | .88801 | .3 | 11 | 20 | |
| styrene | 1.5901 | 1.3885 | .31 | 13 | 20 | |
| isopropylbenzene | 2.7063 | 2.3247 | .1 | 14 | 20 | |
| bromoform | .16937 | .13589 | .1 | 20 | 20 | |
| 1,1,2,2,-tetrachloroethane | .4575 | .37419 | .3 | 18 | 20 | |
| 1,2,3-trichloropropane | .359 | .29734 | .05 | 17 | 20 | |
| n-propylbenzene | 5.3817 | 4.3828 | .05 | 19 | 20 | |
| bromobenzene | .8701 | .80734 | .05 | 7 | 20 | |
| 1,3,5-trimethybenzene | 3.7262 | 2.9752 | .05 | 20 | 20 | F |
| 2-chlorotoluene | 3.6146 | 2.9071 | .05 | 20 | 20 | |
| 4-chorotoluene | 3.3404 | 2.6604 | .05 | 20 | 20 | F |
| tert-butylbenzene | 3.0713 | 2.5482 | .05 | 17 | 20 | |
| 1,2,4-trimethylbenzene | 3.7510 | 3.1336 | .05 | 16 | 20 | |
| sec-butylbenzene | 4.6047 | 3.8070 | .05 | 17 | 20 | |
| p-isopropyltoluene | 3.5701 | 3.1196 | .05 | 13 | 20 | |
| 1,3-dichlorobenzene | 1.8745 | 1.6647 | .6 | 11 | 20 | |
| 1,4-dichlorobenzene | 1.7904 | 1.6470 | .5 | 8 | 20 | |
| n-butylbenzene | 4.0323 | 2.6764 | .05 | 34 | 20 | F |
| 1,2-dichlorobenzene | 1.5779 | 1.4214 | .4 | 10 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 64.557 | .05 | 35 | 20 | F |
| 1,2,4-trichlorobenzene | .77524 | .63477 | .2 | 18 | 20 | |
| hexachlorobutadiene | .39925 | .35243 | .05 | 12 | 20 | |
| naphthalene | 1.1650 | .80333 | .05 | 31 | 20 | F |
| 1,2,3-trichlorobenzene | .59583 | .46113 | .05 | 23 | 20 | F |
| dibromofluoromethane | .2204 | .22662 | .05 | -3 | 20 | |
| 1,2-dichloroethane-d4 | .22618 | .20543 | .05 | 9 | 20 | |
| toluene-d8 | 1.2994 | 1.2272 | .05 | 6 | 20 | |
| 4-bromofluorobenzene | .89239 | .79323 | .05 | 11 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018780 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/24/10 |

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Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018780
**Report Date:** 11/24/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018780-01 | APS-104-35.0-20101109-01 | WAYLAND, MA | 11/09/10 16:48 |
| L1018780-02 | APS-104-68.1-20101110-01 | WAYLAND, MA | 11/10/10 13:02 |
| L1018780-03 | APS-104-77.2-20101110-01 | WAYLAND, MA | 11/10/10 15:08 |
| L1018780-04 | APS-107-20.0-20101110-01 | WAYLAND, MA | 11/10/10 15:10 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018780
**Project Number:** 0114119 **Report Date:** 11/24/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics
In reference to question G:
One or more of the target analytes did not achieve the requested CAM reporting limits.
In reference to question H:
The WG444733-1 LCS recoveries, associated with L1018780-01 through -04, are above the acceptance criteria for Acetone (142%), 2-Butanone (133%), and 1,4-Dioxane (156%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds. In addition, the associated WG444733-1/-2 LCS/LCSD RPD is above the acceptance criteria for 1,4-Dioxane (24%).

**Project Name:** RAYTHEON **Lab Number:** L1018780
**Project Number:** 0114119 **Report Date:** 11/24/10

**Case Narrative (continued)**

The WG444733-1/-2 LCS/LCSD RPDs, associated with L1018780-01 through -04, are above the acceptance criteria for Dichlorodifluoromethane (24%), 2-Hexanone (23%) and Tetrahydrofuran (24%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1018780-01 through -04, did not meet the method required minimum response factors for 4-Methyl-2-pentanone and 1,4-Dioxane, and utilized a quadratic fit for Chloroethane and Acetone.

The continuing calibration standard, associated with L1018780-01 through -04, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Lisa Westerlind

Title: Technical Director/Representative Date: 11/24/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-01 | Date Collected: | 11/09/10 16:48 |
| Client ID: | APS-104-35.0-20101109-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 18:33 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

Lab ID: L1018780-01 Date Collected: 11/09/10 16:48

Client ID: APS-104-35.0-20101109-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-01 | Date Collected: | 11/09/10 16:48 |
| Client ID: | APS-104-35.0-20101109-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119
**Lab Number:** L1018780
**Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-02 | Date Collected: | 11/10/10 13:02 |
| Client ID: | APS-104-68.1-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 19:05 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.8 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 120 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

Lab ID: L1018780-02 Date Collected: 11/10/10 13:02

Client ID: APS-104-68.1-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 14 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-02 | Date Collected: | 11/10/10 13:02 |
| Client ID: | APS-104-68.1-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-03 | Date Collected: | 11/10/10 15:08 |
| Client ID: | APS-104-77.2-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 19:37 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

Lab ID: L1018780-03 Date Collected: 11/10/10 15:08

Client ID: APS-104-77.2-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-03 | Date Collected: | 11/10/10 15:08 |
| Client ID: | APS-104-77.2-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-04 | Date Collected: | 11/10/10 15:10 |
| Client ID: | APS-107-20.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 20:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

Lab ID: L1018780-04 Date Collected: 11/10/10 15:10

Client ID: APS-107-20.0-20101110-01 Date Received: 11/10/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018780-04 | Date Collected: | 11/10/10 15:10 |
| Client ID: | APS-107-20.0-20101110-01 | Date Received: | 11/10/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG444733-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG444733-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018780

**Project Number:** 0114119 **Report Date:** 11/24/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG444733-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018780
**Report Date:** 11/24/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| Methylene chloride | 109 | | 106 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| Chloroform | 107 | | 104 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 111 | | 107 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 99 | | 94 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 105 | | 94 | | 70-130 | 11 | | 20 |
| 1,1,2-Trichloroethane | 108 | | 95 | | 70-130 | 13 | | 20 |
| Tetrachloroethene | 104 | | 100 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 101 | | 96 | | 70-130 | 5 | | 20 |
| Trichlorofluoromethane | 114 | | 115 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 116 | | 107 | | 70-130 | 8 | | 20 |
| 1,1,1-Trichloroethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 106 | | 98 | | 70-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 119 | | 107 | | 70-130 | 11 | | 20 |
| cis-1,3-Dichloropropene | 102 | | 95 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 105 | | 101 | | 70-130 | 4 | | 20 |
| Bromoform | 112 | | 102 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 113 | | 103 | | 70-130 | 9 | | 20 |
| Benzene | 108 | | 102 | | 70-130 | 6 | | 20 |
| Toluene | 103 | | 101 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 110 | | 107 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018780
**Report Date:** 11/24/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| Chloromethane | 113 | | 108 | | 70-130 | 5 | | 20 |
| Bromomethane | 96 | | 92 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 102 | | 100 | | 70-130 | 2 | | 20 |
| Chloroethane | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 105 | | 105 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 103 | | 101 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 103 | | 102 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 98 | | 86 | | 70-130 | 13 | | 20 |
| p/m-Xylene | 112 | | 107 | | 70-130 | 5 | | 20 |
| o-Xylene | 111 | | 105 | | 70-130 | 6 | | 20 |
| cis-1,2-Dichloroethene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Dibromomethane | 113 | | 106 | | 70-130 | 6 | | 20 |
| 1,2,3-Trichloropropane | 112 | | 102 | | 70-130 | 9 | | 20 |
| Styrene | 107 | | 104 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 96 | | 122 | | 70-130 | **24** | Q | 20 |
| Acetone | **142** | Q | 122 | | 70-130 | 15 | | 20 |
| Carbon disulfide | 96 | | 97 | | 70-130 | 1 | | 20 |
| 2-Butanone | **133** | Q | 111 | | 70-130 | 18 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018780
**Report Date:** 11/24/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 124 | | 105 | | 70-130 | 17 | | 20 |
| 2-Hexanone | 126 | | 100 | | 70-130 | **23** | Q | 20 |
| Bromochloromethane | 107 | | 102 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 123 | | 97 | | 70-130 | **24** | Q | 20 |
| 2,2-Dichloropropane | 115 | | 111 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 109 | | 97 | | 70-130 | 12 | | 20 |
| 1,3-Dichloropropane | 111 | | 100 | | 70-130 | 10 | | 20 |
| 1,1,1,2-Tetrachloroethane | 107 | | 99 | | 70-130 | 8 | | 20 |
| Bromobenzene | 100 | | 101 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 109 | | 105 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 107 | | 105 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 106 | | 104 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 105 | | 109 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | 122 | | 100 | | 70-130 | 20 | | 20 |
| Hexachlorobutadiene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 111 | | 105 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 112 | | 108 | | 70-130 | 4 | | 20 |
| Naphthalene | 102 | | 93 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 111 | | 109 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 103 | | 98 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018780
**Report Date:** 11/24/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 109 | | 108 | | 70-130 | 1 | | 20 |
| Ethyl ether | 104 | | 96 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 100 | | 92 | | 70-130 | 8 | | 20 |
| Ethyl-Tert-Butyl-Ether | 99 | | 90 | | 70-130 | 10 | | 20 |
| Tertiary-Amyl Methyl Ether | 109 | | 96 | | 70-130 | 13 | | 20 |
| 1,4-Dioxane | **156** | Q | 122 | | 70-130 | **24** | Q | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 104 | | 70-130 |
| Toluene-d8 | 101 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 103 | | 70-130 |
| Dibromofluoromethane | 101 | | 99 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018780
**Report Date:** 11/24/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018780-01A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1018780-01B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1018780-02A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1018780-02B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1018780-03A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1018780-03B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1018780-04A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1018780
**Project Number:** 0114119 **Report Date:** 11/24/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018780 |
| **Project Number:** | 0114119 | **Report Date:** | 11/24/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018780
**Project Number:** 0114119 **Report Date:** 11/24/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:11241014:42

L1018780

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA LAB

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10 | ALPHA Job #: L1018780 JJS 11/23/10

## Client Information

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6747

Email: JASON.FLATTERY@ERM.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON. FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr

Date Due: 11/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260 JJS 11/23/10

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | TOTAL # BOTTLES | Sample Specific Comments |
|---|---|---|---|---|---|---|---|
| 18780-01 | APS-105-30.0-20101109-01 | 11/09/10 | 16:50 | GW | LJM | 2 | |
| | APS-104-35.0-20101109-01 | 11/09/10 | 16:48 | GW | LJM | 2 | X |
| | APS-105-35.0-20101110-01 | 11/10/10 | 08:06 | GW | LJM | 2 | HOLD SAMPLE |
| | APS-104-40.0-20101110-01 | 11/10/10 | 08:19 | GW | LJM | 2 | HOLD SAMPLE |
| | APS-105-40.0-20101110-01 | 11/10/10 | 08:44 | GW | LJM | 2 | |
| | APS-104-43.0-20101110-01 | 11/10/10 | 09:46 | GW | LJM | 2 | |
| | APS-105-53.2-20101110-01 | 11/10/10 | 10:08 | GW | LJM | 2 | |
| | APS-105-46.8-20101110-01 | 11/10/10 | 09:31 | GW | LJM | 2 | |
| | APS-105-58.5-20101110-01 | 11/10/10 | 10:49 | GW | LJM | 2 | |
| | APS-104-48.0-20101110-01 | 11/10/10 | 10:47 | GW | LJM | 2 | |

Container Type: VIAL

Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 11/10/10 1628 | [illegible] | 11/10/10 22:2 |
| [illegible] | 11-10-10 1730 | [illegible] | 11/10/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 16-Jan-2010)

L1018780

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA LABORATORIES

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10 | ALPHA Job #: L1018780 11/23/10

## Client Information

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48hr

Date Due: 11/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: 8260 (11/12/10)

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 18780-01 | APS-104-82.1-20101110-01 | 11/10/10 | 1601 | GW | LJM | 2 | | |
| 02 | APS-104-63.5-20101110-01 | 11/10/10 | 1154 | ↓ | ↓ | 2 | | |
| 03 | APS-105-82.8-20101110-01 | 11/10/10 | 1305 | | | 2 | hold sample | |
| 04 | EB-07-20101110-01 | 11/10/10 | 1420 | | | 2 | | |
| 05 | APS-105-86.4-20101110-01 | 11/10/10 | 1353 | | | 2 | | |
| 06 | APS-105-72.0-20101110-01 | 11/10/10 | 1208 | | | 2 | | |
| 07 | APS-104-68.1-20101110-01 | 11/10/10 | 1302 | | | 2 | X | |
| 08 | APS-104-72.3-20101110-01 | 11/10/10 | 1410 | | | 2 | hold sample | |
| 09 | APS-104-77.2-20101110-01 | 11/10/10 | 1508 | | | 2 | X | |
| 10 | APS-107-20.0-20101110-01 | 11/10/10 | 1520 | ↓ | ↓ | 2 | X | hold sample |
| | | | | | | | | Hold sample 11/11/10 |

Container Type: VOA

Preservative: HCl

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/10/10 1528 | [signature] | 11/10/10 1528 |
| [signature] | 11-10-10 | [signature] | 11/10/10 |

Please print clearly, legibly and completely. Samples can not be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

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# CHAIN OF CUSTODY

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ALPHA LABS
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1049616

**Client Information**

Client: ERM
Address: 399 Boylston St.
Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114.119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.
Date Due: 11/12/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 79610 01 | APS-107-25.0 20101110-01 | 10/10/10 11/10/10 | 1549 | GW | LJM | 2 | HOLD SAMPLE | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|
| Container Type | VOA | | | |
| Preservative | HCL | | | |
| | [signature] | 10/11/10 1628 | [signature] | 11/10/10 1630 |
| | [signature] | 11-10-10 1730 | [signature] | 11/10/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

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ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10

ALPHA Job #: L1017449

## Client Information

Client: ERM

Address: 399 Boylston St.
Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267 6447

Email: JASON.FLATTERY@ERM.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON. FLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr

Date Due: 11/12/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 1 | APS-105-30.0-20101109-01 | 11/09/10 | 16:50 | GW | LJM | 2 | | |
| 2 | APS-104-35.0-20101109-01 | 11/09/10 | 16:48 | GW | LJM | 2 | hold sample | |
| 3 | APS-105-35.0-20101110-01 | 11/10/10 | 08:06 | GW | LJM | 2 | hold sample | |
| 4 | APS-104-40.0-20101110-01 | 11/10/10 | 08:19 | GW | LJM | 2 | | |
| 5 | APS-105-40.0-20101110-01 | 11/10/10 | 08:44 | GW | LJM | 2 | | |
| 6 | APS-104-43.0-20101110-01 | 11/10/10 | 09:46 | GW | LJM | 2 | | |
| 7 | APS-105-53.2-20101110-01 | 11/10/10 | 10:08 | GW | LJM | 2 | | |
| 8 | APS-105-46.8-20101110-01 | 11/10/10 | 09:31 | GW | LJM | 2 | | |
| 9 | APS-105-58.5-20101110-01 | 11/10/10 | 10:49 | GW | LJM | 2 | | |
| 10 | APS-104-48.0-20101110-01 | 11/10/10 | 10:47 | GW | LJM | 2 | | |
| | | | | | Container Type | VOA | | |
| | | | | | Preservative | HCL | | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 11/10/10 1628 | [illegible] | 11/10/10 [illegible] |
| [illegible] | 11-10-10 1730 | [illegible] | 11/10/10 1730 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's terms and conditions. See reverse side.

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# CHAIN OF CUSTODY

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ALPHA

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10 ALPHA Job #: L1012164

**Client Information**

Client: ERM

Address: 399 Boylston St. Boston, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr

Date Due: 11/12/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client Info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 12990-11 | APS-104-82.1-20101110-01 | 11/10/10 | 1601 | GW | LJM | 2 | | |
| 12 | APS-104-63.5-20101110-01 | 11/10/10 | 1154 | ↓ | ↓ | 2 | | |
| 13 | APS-105-82.8-20101110-01 | 11/10/10 | 1305 | | | 2 | hold sample | |
| 14 | EB-07-20101110-01 | 11/10/10 | 1420 | | | 2 | | |
| 15 | APS-105-86.4-20101110-01 | 11/10/10 | 1353 | | | 2 | | |
| 16 | APS-105-77.0-20101110-01 | 11/10/10 | 1208 | | | 2 | | |
| 17 | APS-104-68.1-20101110-01 | 11/10/10 | 1302 | | | 2 | hold sample | |
| 18 | APS-104-72.3-20101110-01 | 11/10/10 | 1410 | | | 2 | | |
| 19 | APS-104-77.2-20101110-01 | 11/10/10 | 1508 | | | 2 | hold sample | |
| 20 | APS-107-20.0-20101110-01 | 11/10/10 | 1510 | ↓ | ↓ | 2 | | |

Container Type: VOA

Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/10/10 1628 | [signature] | 11/10/10 |
| [signature] | 11-10-10 | [signature] | 11/10/10 18 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to ALPHA's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11241014:42

# CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA Laboratories
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/10/10 | ALPHA Job #: L1011264016

**Client Information**

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114.119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.
Date Due: 11/12/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

**Other Project Specific Requirements/Comments/Detection Limits:**

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 79614 01 | APS-107-25.0-20101110-01 | 10/11/10 | 1549 | GW | LJM | 2 | hold SAMPLE | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Container Type: VOA
Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 10/11/10 1628 | [illegible] | 11/10/10 16[illegible] |
| [illegible] | 11-10-10 1730 | [illegible] | 11/10/10 17[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018780

Instrument ID: Jack.i  Calibration Date: 23-NOV-2010  Time: 16:24

Lab File ID: 1123N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .61274 | .59116 | .1 | 4 | 20 | |
| chloromethane | .75295 | .85158 | .1 | -13 | 20 | |
| vinyl chloride | .64793 | .66321 | .1 | -2 | 20 | |
| bromomethane | .30313 | .29164 | .1 | 4 | 20 | |
| chloroethane | 100 | 98.744 | .1 | 1 | 20 | |
| trichlorofluoromethane | .65249 | .74262 | .1 | -14 | 20 | |
| ethyl ether | .15724 | .16282 | .05 | -4 | 20 | |
| 1,1,-dichloroethene | .38996 | .40824 | .1 | -5 | 20 | |
| carbon disulfide | 1.0398 | .99358 | .05 | 4 | 20 | |
| methylene chloride | .64771 | .70835 | .05 | -9 | 20 | |
| acetone | 100 | 142 | .1 | -42 | 20 | F |
| trans-1,2-dichloroethene | .66209 | .66251 | .1 | 0 | 20 | |
| methyl tert butyl ether | .93223 | .91059 | .1 | 2 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.1019 | 1.0937 | .05 | 1 | 20 | |
| Diisopropyl Ether | 1.4677 | 1.4617 | .05 | 0 | 20 | |
| 1,1-dichloroethane | 1.1648 | 1.2181 | .2 | -5 | 20 | |
| cis-1,2-dichloroethene | .69628 | .83238 | .1 | -20 | 20 | |
| 2,2-dichloropropane | .67519 | .77982 | .05 | -15 | 20 | |
| bromochloromethane | .28457 | .30477 | .05 | -7 | 20 | |
| chloroform | 1.0901 | 1.1711 | .2 | -7 | 20 | |
| carbontetrachloride | .67929 | .75316 | .1 | -11 | 20 | |
| tetrahydrofuran | .10507 | .12969 | .05 | -23 | 20 | F |
| 1,1,1-trichloroethane | .8383 | .89102 | .1 | -6 | 20 | |
| Tertiary-Amyl Methyl Ether | .8416 | .91595 | .05 | -9 | 20 | |
| 1,1-dichloropropene | .83584 | .87986 | .05 | -5 | 20 | |
| 2-butanone | .1097 | .14559 | .1 | -33 | 20 | F |
| benzene | 2.4877 | 2.6749 | .5 | -8 | 20 | |
| 1,2-dichloroethane | .62372 | .72362 | .1 | -16 | 20 | |
| trichloroethene | .60611 | .62292 | .2 | -3 | 20 | |
| dibromomethane | .28942 | .3271 | .05 | -13 | 20 | |
| 1,2-dichloropropane | .61145 | .60792 | .1 | 1 | 20 | |
| bromodichloromethane | .74826 | .79146 | .2 | -6 | 20 | |
| 1,4-dioxane | .00185 | .00287 | .05 | -56 | 20 | F |
| cis-1,3-dichloropropene | .74493 | .75723 | .2 | -2 | 20 | |
| toluene | 2.0165 | 2.0734 | .4 | -3 | 20 | |
| tetrachloroethene | .85833 | .89427 | .2 | -4 | 20 | |
| 4-methyl-2-pentanone | .09211 | .11445 | .1 | -24 | 20 | F |
| trans-1,3-dichloropropene | .62596 | .7453 | .1 | -19 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018780

Instrument ID: Jack.i  Calibration Date: 23-NOV-2010  Time: 16:24

Lab File ID: 1123N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .41174 | .44446 | .1 | -8 | 20 | |
| chlorodibromomethane | .5237 | .54933 | .1 | -5 | 20 | |
| 1,3-dichloropropane | .86161 | .96008 | .05 | -11 | 20 | |
| 1,2-dibromoethane | .45829 | .49948 | .1 | -9 | 20 | |
| 2-hexanone | .19053 | .24109 | .1 | -27 | 20 | F |
| chlorobenzene | 2.1543 | 2.1749 | .5 | -1 | 20 | |
| ethyl benzene | 3.7465 | 4.1352 | .1 | -10 | 20 | |
| 1,1,1,2-tetrachloroethane | .57339 | .61288 | .05 | -7 | 20 | |
| p/m xylene | 1.4383 | 1.6131 | .1 | -12 | 20 | |
| o xylene | 1.3632 | 1.5097 | .3 | -11 | 20 | |
| styrene | 2.2452 | 2.4024 | .3 | -7 | 20 | |
| bromoform | .47754 | .53383 | .1 | -12 | 20 | |
| isopropylbenzene | 3.5840 | 3.9695 | .1 | -11 | 20 | |
| bromobenzene | 1.5869 | 1.5889 | .05 | 0 | 20 | |
| n-propylbenzene | 7.5117 | 8.3333 | .05 | -11 | 20 | |
| 1,1,2,2,-tetrachloroethane | .98109 | 1.1068 | .3 | -13 | 20 | |
| 2-chlorotoluene | 5.0111 | 4.7190 | .05 | 6 | 20 | |
| 1,2,3-trichloropropane | .78023 | .87685 | .05 | -12 | 20 | |
| 1,3,5-trimethybenzene | 5.7825 | 5.2974 | .05 | 8 | 20 | |
| 4-chorotoluene | 4.6273 | 4.8479 | .05 | -5 | 20 | |
| tert-butylbenzene | 4.4081 | 4.6713 | .05 | -6 | 20 | |
| 1,2,4-trimethylbenzene | 5.0985 | 5.5699 | .05 | -9 | 20 | |
| sec-butylbenzene | 6.3141 | 6.7860 | .05 | -7 | 20 | |
| p-isopropyltoluene | 4.9959 | 5.5716 | .05 | -12 | 20 | |
| 1,3-dichlorobenzene | 3.0219 | 3.0752 | .6 | -2 | 20 | |
| 1,4-dichlorobenzene | 3.0831 | 3.1515 | .5 | -2 | 20 | |
| n-butylbenzene | 4.3730 | 4.7864 | .05 | -9 | 20 | |
| 1,2-dichlorobenzene | 2.7409 | 2.8196 | .4 | -3 | 20 | |
| 1,2-dibromo-3-chloropropane | .12789 | .1555 | .05 | -22 | 20 | F |
| hexachlorobutadiene | .73224 | .70064 | .05 | 4 | 20 | |
| 1,2,4-trichlorobenzene | 1.7005 | 1.6988 | .2 | 0 | 20 | |
| naphthalene | 2.9306 | 2.9748 | .05 | -2 | 20 | |
| 1,2,3-trichlorobenzene | 1.3936 | 1.4325 | .05 | -3 | 20 | |
| dibromofluoromethane | .26329 | .2666 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .25342 | .27251 | .05 | -8 | 20 | |
| toluene-d8 | 1.2667 | 1.2771 | .05 | -1 | 20 | |
| 4-bromofluorobenzene | .8428 | .8395 | .05 | 0 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018781 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/26/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018781
**Report Date:** 11/26/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018781-01 | APS-112-29.6-20101115-01 | WAYLAND, MA | 11/15/10 12:41 |
| L1018781-02 | APS-113-20.0-20101115-01 | WAYLAND, MA | 11/15/10 14:34 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018781
**Project Number:** 0114119 **Report Date:** 11/26/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG444733-1 LCS recoveries, associated with L1018781-01 and -02, are above the acceptance criteria for Acetone (142%), 2-Butanone (133%), and 1,4-Dioxane (156%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds. In addition, the associated LCS/LCSD RPD is above the acceptance criteria for 1,4-Dioxane (24%).

**Project Name:** RAYTHEON **Lab Number:** L1018781
**Project Number:** 0114119 **Report Date:** 11/26/10

**Case Narrative (continued)**

The WG444733-1/-2 LCS/LCSD RPDs are above the acceptance criteria for Dichlorodifluoromethane (24%), 2-Hexanone (23%), and Tetrahydrofuran (24%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1018781-01 and -02, did not meet the method required minimum response factors for 4-Methyl-2-pentanone and 1,4-Dioxane; and utilized a quadratic fit for Chloroethane and Acetone.

The continuing calibration standard, associated with L1018781-01 and -02, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/26/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018781-01 | Date Collected: | 11/15/10 12:41 |
| Client ID: | APS-112-29.6-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 21:46 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

Lab ID: L1018781-01 Date Collected: 11/15/10 12:41

Client ID: APS-112-29.6-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018781-01 | Date Collected: | 11/15/10 12:41 |
| Client ID: | APS-112-29.6-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018781-02 | Date Collected: | 11/15/10 14:34 |
| Client ID: | APS-113-20.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 22:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

Lab ID: L1018781-02 Date Collected: 11/15/10 14:34

Client ID: APS-113-20.0-20101115-01 Date Received: 11/15/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018781-02 | Date Collected: | 11/15/10 14:34 |
| Client ID: | APS-113-20.0-20101115-01 | Date Received: | 11/15/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG444733-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG444733-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018781

**Project Number:** 0114119 **Report Date:** 11/26/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG444733-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018781
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| Methylene chloride | 109 | | 106 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| Chloroform | 107 | | 104 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 111 | | 107 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 99 | | 94 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 105 | | 94 | | 70-130 | 11 | | 20 |
| 1,1,2-Trichloroethane | 108 | | 95 | | 70-130 | 13 | | 20 |
| Tetrachloroethene | 104 | | 100 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 101 | | 96 | | 70-130 | 5 | | 20 |
| Trichlorofluoromethane | 114 | | 115 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 116 | | 107 | | 70-130 | 8 | | 20 |
| 1,1,1-Trichloroethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 106 | | 98 | | 70-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 119 | | 107 | | 70-130 | 11 | | 20 |
| cis-1,3-Dichloropropene | 102 | | 95 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 105 | | 101 | | 70-130 | 4 | | 20 |
| Bromoform | 112 | | 102 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 113 | | 103 | | 70-130 | 9 | | 20 |
| Benzene | 108 | | 102 | | 70-130 | 6 | | 20 |
| Toluene | 103 | | 101 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 110 | | 107 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018781
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| Chloromethane | 113 | | 108 | | 70-130 | 5 | | 20 |
| Bromomethane | 96 | | 92 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 102 | | 100 | | 70-130 | 2 | | 20 |
| Chloroethane | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 105 | | 105 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 103 | | 101 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 103 | | 102 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 98 | | 86 | | 70-130 | 13 | | 20 |
| p/m-Xylene | 112 | | 107 | | 70-130 | 5 | | 20 |
| o-Xylene | 111 | | 105 | | 70-130 | 6 | | 20 |
| cis-1,2-Dichloroethene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Dibromomethane | 113 | | 106 | | 70-130 | 6 | | 20 |
| 1,2,3-Trichloropropane | 112 | | 102 | | 70-130 | 9 | | 20 |
| Styrene | 107 | | 104 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 96 | | 122 | | 70-130 | **24** | Q | 20 |
| Acetone | **142** | Q | 122 | | 70-130 | 15 | | 20 |
| Carbon disulfide | 96 | | 97 | | 70-130 | 1 | | 20 |
| 2-Butanone | **133** | Q | 111 | | 70-130 | 18 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018781
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 124 | | 105 | | 70-130 | 17 | | 20 |
| 2-Hexanone | 126 | | 100 | | 70-130 | **23** | Q | 20 |
| Bromochloromethane | 107 | | 102 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 123 | | 97 | | 70-130 | **24** | Q | 20 |
| 2,2-Dichloropropane | 115 | | 111 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 109 | | 97 | | 70-130 | 12 | | 20 |
| 1,3-Dichloropropane | 111 | | 100 | | 70-130 | 10 | | 20 |
| 1,1,1,2-Tetrachloroethane | 107 | | 99 | | 70-130 | 8 | | 20 |
| Bromobenzene | 100 | | 101 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 109 | | 105 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 107 | | 105 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 106 | | 104 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 105 | | 109 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | 122 | | 100 | | 70-130 | 20 | | 20 |
| Hexachlorobutadiene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 111 | | 105 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 112 | | 108 | | 70-130 | 4 | | 20 |
| Naphthalene | 102 | | 93 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 111 | | 109 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 103 | | 98 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018781
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 109 | | 108 | | 70-130 | 1 | | 20 |
| Ethyl ether | 104 | | 96 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 100 | | 92 | | 70-130 | 8 | | 20 |
| Ethyl-Tert-Butyl-Ether | 99 | | 90 | | 70-130 | 10 | | 20 |
| Tertiary-Amyl Methyl Ether | 109 | | 96 | | 70-130 | 13 | | 20 |
| 1,4-Dioxane | **156** | Q | 122 | | 70-130 | **24** | Q | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 104 | | 70-130 |
| Toluene-d8 | 101 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 103 | | 70-130 |
| Dibromofluoromethane | 101 | | 99 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018781
**Report Date:** 11/26/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018781-01A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018781-01B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018781-02A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1018781
**Project Number:** 0114119 **Report Date:** 11/26/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018781 |
| **Project Number:** | 0114119 | **Report Date:** | 11/26/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018781
**Project Number:** 0114119 **Report Date:** 11/26/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

L1018781

# CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/15/10

ALPHA Job #: L1018781

JJ 11/23/10

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: ~~WAYLAND~~ RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.

Date Due: 11/17/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

**Other Project Specific Requirements/Comments/Detection Limits:**

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for Inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | 11/23/10 Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 11/23/10 | ANALYSIS: 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 18781.1 | APS-112-29.6-20101115-01 | 11/15/10 | 1241 | GW | LJM | X | | ~~HOLD~~ | |
| 12 | APS-112-35.0-20101115-01 | 11/15/10 | 1316 | | | | | HOLD | |
| 13 | EB-13-20101115-01 | 11/15/10 | 1350 | | | | | * HOLD (VM) 11/18/10 | |
| 14 | APS-112-40.0-20101115-01 | 11/15/10 | 1354 | | | | | | |
| 15 | APS-111-86.6-20101115-01 | 11/15/10 | 1318 | | | | | | |
| 16 | APS-112-45.0-20101115-01 | 11/15/10 | 1439 | | | | | | |
| 17 .2 | APS-113-20.0-20101115-01 | 11/15/10 | 1434 | | | X | | | |
| 18 | APS-113-24.4-20101115-01 | 11/15/10 | 1515 | | | | | ~~HOLD~~ | |
| 19 | APS-112-49.1-20101115-01 | 11/15/10 | 1533 | | | | | HOLD | |
| 20 | APS-113-29.5-20101115-01 | 11/15/10 | 1551 | | | | | | |

Container Type: VOA

Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 1636 11/15/10 | [signature] | 11/15/10 1636 |
| [signature] | 16/15/10 1730 | [signature] | 11/15/10 1730 |

Please print clearly, legibly and completely. Samples cannot be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11261011:00

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018781

Instrument ID: Jack.i  Calibration Date: 23-NOV-2010  Time: 16:24

Lab File ID: 1123N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .61274 | .59116 | .1 | 4 | 20 | |
| chloromethane | .75295 | .85158 | .1 | -13 | 20 | |
| vinyl chloride | .64793 | .66321 | .1 | -2 | 20 | |
| bromomethane | .30313 | .29164 | .1 | 4 | 20 | |
| chloroethane | 100 | 98.744 | .1 | 1 | 20 | |
| trichlorofluoromethane | .65249 | .74262 | .1 | -14 | 20 | |
| ethyl ether | .15724 | .16282 | .05 | -4 | 20 | |
| 1,1,-dichloroethene | .38996 | .40824 | .1 | -5 | 20 | |
| carbon disulfide | 1.0398 | .99358 | .05 | 4 | 20 | |
| methylene chloride | .64771 | .70835 | .05 | -9 | 20 | |
| acetone | 100 | 142 | .1 | -42 | 20 | F |
| trans-1,2-dichloroethene | .66209 | .66251 | .1 | 0 | 20 | |
| methyl tert butyl ether | .93223 | .91059 | .1 | 2 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.1019 | 1.0937 | .05 | 1 | 20 | |
| Diisopropyl Ether | 1.4677 | 1.4617 | .05 | 0 | 20 | |
| 1,1-dichloroethane | 1.1648 | 1.2181 | .2 | -5 | 20 | |
| cis-1,2-dichloroethene | .69628 | .83238 | .1 | -20 | 20 | |
| 2,2-dichloropropane | .67519 | .77982 | .05 | -15 | 20 | |
| bromochloromethane | .28457 | .30477 | .05 | -7 | 20 | |
| chloroform | 1.0901 | 1.1711 | .2 | -7 | 20 | |
| carbontetrachloride | .67929 | .75316 | .1 | -11 | 20 | |
| tetrahydrofuran | .10507 | .12969 | .05 | -23 | 20 | F |
| 1,1,1-trichloroethane | .8383 | .89102 | .1 | -6 | 20 | |
| Tertiary-Amyl Methyl Ether | .8416 | .91595 | .05 | -9 | 20 | |
| 1,1-dichloropropene | .83584 | .87986 | .05 | -5 | 20 | |
| 2-butanone | .1097 | .14559 | .1 | -33 | 20 | F |
| benzene | 2.4877 | 2.6749 | .5 | -8 | 20 | |
| 1,2-dichloroethane | .62372 | .72362 | .1 | -16 | 20 | |
| trichloroethene | .60611 | .62292 | .2 | -3 | 20 | |
| dibromomethane | .28942 | .3271 | .05 | -13 | 20 | |
| 1,2-dichloropropane | .61145 | .60792 | .1 | 1 | 20 | |
| bromodichloromethane | .74826 | .79146 | .2 | -6 | 20 | |
| 1,4-dioxane | .00185 | .00287 | .05 | -56 | 20 | F |
| cis-1,3-dichloropropene | .74493 | .75723 | .2 | -2 | 20 | |
| toluene | 2.0165 | 2.0734 | .4 | -3 | 20 | |
| tetrachloroethene | .85833 | .89427 | .2 | -4 | 20 | |
| 4-methyl-2-pentanone | .09211 | .11445 | .1 | -24 | 20 | F |
| trans-1,3-dichloropropene | .62596 | .7453 | .1 | -19 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018781

Instrument ID: Jack.i  Calibration Date: 23-NOV-2010  Time: 16:24

Lab File ID: 1123N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .41174 | .44446 | .1 | -8 | 20 | |
| chlorodibromomethane | .5237 | .54933 | .1 | -5 | 20 | |
| 1,3-dichloropropane | .86161 | .96008 | .05 | -11 | 20 | |
| 1,2-dibromoethane | .45829 | .49948 | .1 | -9 | 20 | |
| 2-hexanone | .19053 | .24109 | .1 | -27 | 20 | F |
| chlorobenzene | 2.1543 | 2.1749 | .5 | -1 | 20 | |
| ethyl benzene | 3.7465 | 4.1352 | .1 | -10 | 20 | |
| 1,1,1,2-tetrachloroethane | .57339 | .61288 | .05 | -7 | 20 | |
| p/m xylene | 1.4383 | 1.6131 | .1 | -12 | 20 | |
| o xylene | 1.3632 | 1.5097 | .3 | -11 | 20 | |
| styrene | 2.2452 | 2.4024 | .3 | -7 | 20 | |
| bromoform | .47754 | .53383 | .1 | -12 | 20 | |
| isopropylbenzene | 3.5840 | 3.9695 | .1 | -11 | 20 | |
| bromobenzene | 1.5869 | 1.5889 | .05 | 0 | 20 | |
| n-propylbenzene | 7.5117 | 8.3333 | .05 | -11 | 20 | |
| 1,1,2,2,-tetrachloroethane | .98109 | 1.1068 | .3 | -13 | 20 | |
| 2-chlorotoluene | 5.0111 | 4.7190 | .05 | 6 | 20 | |
| 1,2,3-trichloropropane | .78023 | .87685 | .05 | -12 | 20 | |
| 1,3,5-trimethybenzene | 5.7825 | 5.2974 | .05 | 8 | 20 | |
| 4-chorotoluene | 4.6273 | 4.8479 | .05 | -5 | 20 | |
| tert-butylbenzene | 4.4081 | 4.6713 | .05 | -6 | 20 | |
| 1,2,4-trimethylbenzene | 5.0985 | 5.5699 | .05 | -9 | 20 | |
| sec-butylbenzene | 6.3141 | 6.7860 | .05 | -7 | 20 | |
| p-isopropyltoluene | 4.9959 | 5.5716 | .05 | -12 | 20 | |
| 1,3-dichlorobenzene | 3.0219 | 3.0752 | .6 | -2 | 20 | |
| 1,4-dichlorobenzene | 3.0831 | 3.1515 | .5 | -2 | 20 | |
| n-butylbenzene | 4.3730 | 4.7864 | .05 | -9 | 20 | |
| 1,2-dichlorobenzene | 2.7409 | 2.8196 | .4 | -3 | 20 | |
| 1,2-dibromo-3-chloropropane | .12789 | .1555 | .05 | -22 | 20 | F |
| hexachlorobutadiene | .73224 | .70064 | .05 | 4 | 20 | |
| 1,2,4-trichlorobenzene | 1.7005 | 1.6988 | .2 | 0 | 20 | |
| naphthalene | 2.9306 | 2.9748 | .05 | -2 | 20 | |
| 1,2,3-trichlorobenzene | 1.3936 | 1.4325 | .05 | -3 | 20 | |
| dibromofluoromethane | .26329 | .2666 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .25342 | .27251 | .05 | -8 | 20 | |
| toluene-d8 | 1.2667 | 1.2771 | .05 | -1 | 20 | |
| 4-bromofluorobenzene | .8428 | .8395 | .05 | 0 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018782 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 11/26/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018782
**Report Date:** 11/26/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018782-01 | APS-106-20.0-20101111-01 | WAYLAND, MA | 11/11/10 07:44 |
| L1018782-02 | APS-109-30.0-20101111-01 | WAYLAND, MA | 11/11/10 15:57 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018782
**Project Number:** 0114119 **Report Date:** 11/26/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG444733-1 LCS recoveries, associated with L1018782-01 and -02, are above the acceptance criteria for Acetone (142%), 2-Butanone (133%), and 1,4-Dioxane (156%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds. In addition, the associated LCS/LCSD RPD is above the acceptance criteria for 1,4-Dioxane (24%).

**Project Name:** RAYTHEON **Lab Number:** L1018782
**Project Number:** 0114119 **Report Date:** 11/26/10

**Case Narrative (continued)**

The WG444733-1/-2 LCS/LCSD RPDs are above the acceptance criteria for Dichlorodifluoromethane (24%), 2-Hexanone (23%) and Tetrahydrofuran (24%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1018782-01 and -02, did not meet the method required minimum response factors for 4-Methyl-2-pentanone and 1,4-Dioxane; and utilized a quadratic fit for Chloroethane and Acetone.

The continuing calibration standard, associated with L1018782-01 and -02, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/26/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018782-01 | Date Collected: | 11/11/10 07:44 |
| Client ID: | APS-106-20.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 20:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

Lab ID: L1018782-01 Date Collected: 11/11/10 07:44

Client ID: APS-106-20.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018782-01 | Date Collected: | 11/11/10 07:44 |
| Client ID: | APS-106-20.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018782-02 | Date Collected: | 11/11/10 15:57 |
| Client ID: | APS-109-30.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/23/10 21:14 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

Lab ID: L1018782-02 Date Collected: 11/11/10 15:57

Client ID: APS-109-30.0-20101111-01 Date Received: 11/11/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018782-02 | Date Collected: | 11/11/10 15:57 |
| Client ID: | APS-109-30.0-20101111-01 | Date Received: | 11/11/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG444733-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG444733-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018782

**Project Number:** 0114119 **Report Date:** 11/26/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/23/10 18:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG444733-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018782
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| Methylene chloride | 109 | | 106 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| Chloroform | 107 | | 104 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 111 | | 107 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 99 | | 94 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 105 | | 94 | | 70-130 | 11 | | 20 |
| 1,1,2-Trichloroethane | 108 | | 95 | | 70-130 | 13 | | 20 |
| Tetrachloroethene | 104 | | 100 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 101 | | 96 | | 70-130 | 5 | | 20 |
| Trichlorofluoromethane | 114 | | 115 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 116 | | 107 | | 70-130 | 8 | | 20 |
| 1,1,1-Trichloroethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 106 | | 98 | | 70-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 119 | | 107 | | 70-130 | 11 | | 20 |
| cis-1,3-Dichloropropene | 102 | | 95 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 105 | | 101 | | 70-130 | 4 | | 20 |
| Bromoform | 112 | | 102 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 113 | | 103 | | 70-130 | 9 | | 20 |
| Benzene | 108 | | 102 | | 70-130 | 6 | | 20 |
| Toluene | 103 | | 101 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 110 | | 107 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018782
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| Chloromethane | 113 | | 108 | | 70-130 | 5 | | 20 |
| Bromomethane | 96 | | 92 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 102 | | 100 | | 70-130 | 2 | | 20 |
| Chloroethane | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 105 | | 105 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 103 | | 101 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 103 | | 102 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 98 | | 86 | | 70-130 | 13 | | 20 |
| p/m-Xylene | 112 | | 107 | | 70-130 | 5 | | 20 |
| o-Xylene | 111 | | 105 | | 70-130 | 6 | | 20 |
| cis-1,2-Dichloroethene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Dibromomethane | 113 | | 106 | | 70-130 | 6 | | 20 |
| 1,2,3-Trichloropropane | 112 | | 102 | | 70-130 | 9 | | 20 |
| Styrene | 107 | | 104 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 96 | | 122 | | 70-130 | **24** | Q | 20 |
| Acetone | **142** | Q | 122 | | 70-130 | 15 | | 20 |
| Carbon disulfide | 96 | | 97 | | 70-130 | 1 | | 20 |
| 2-Butanone | **133** | Q | 111 | | 70-130 | 18 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018782
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 124 | | 105 | | 70-130 | 17 | | 20 |
| 2-Hexanone | 126 | | 100 | | 70-130 | **23** | Q | 20 |
| Bromochloromethane | 107 | | 102 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 123 | | 97 | | 70-130 | **24** | Q | 20 |
| 2,2-Dichloropropane | 115 | | 111 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 109 | | 97 | | 70-130 | 12 | | 20 |
| 1,3-Dichloropropane | 111 | | 100 | | 70-130 | 10 | | 20 |
| 1,1,1,2-Tetrachloroethane | 107 | | 99 | | 70-130 | 8 | | 20 |
| Bromobenzene | 100 | | 101 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 109 | | 105 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 107 | | 105 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 106 | | 104 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 105 | | 109 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | 122 | | 100 | | 70-130 | 20 | | 20 |
| Hexachlorobutadiene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 111 | | 105 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 112 | | 108 | | 70-130 | 4 | | 20 |
| Naphthalene | 102 | | 93 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 111 | | 109 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 103 | | 98 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018782
**Report Date:** 11/26/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG444733-1 WG444733-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 109 | | 108 | | 70-130 | 1 | | 20 |
| Ethyl ether | 104 | | 96 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 100 | | 92 | | 70-130 | 8 | | 20 |
| Ethyl-Tert-Butyl-Ether | 99 | | 90 | | 70-130 | 10 | | 20 |
| Tertiary-Amyl Methyl Ether | 109 | | 96 | | 70-130 | 13 | | 20 |
| 1,4-Dioxane | **156** | Q | 122 | | 70-130 | **24** | Q | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 104 | | 70-130 |
| Toluene-d8 | 101 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 103 | | 70-130 |
| Dibromofluoromethane | 101 | | 99 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018782
**Report Date:** 11/26/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018782-01A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018782-02A | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |
| L1018782-02B | Vial HCl preserved | A | N/A | 2.7 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018782 |
| **Project Number:** | 0114119 | **Report Date:** | 11/26/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018782 |
| **Project Number:** | 0114119 | **Report Date:** | 11/26/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018782
**Project Number:** 0114119 **Report Date:** 11/26/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

L1018782

# CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 11/11/10

ALPHA Job #: L1018782 11/23/10

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St. Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr.
Date Due: 11/15/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client Info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

**Other Project Specific Requirements/Comments/Detection Limits:**

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260 (TS 11/23/10)

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | 11/23/10 Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 8004 | APS-107-30.0-20101110-01 | 11/10/10 | 16:27 | GW | LJM | 2 | hold | |
| 1 | EB-06-20101110-01 | 11/10/10 | 16:36 | | | 2 | ~~hold~~ LJM | |
| 1 | APS-106-20.0-20101111-01 | 11/11/10 | 0744 | | | 2 | X ~~hold~~ | |
| | APS-107-40.0-20101111-01 | 11/11/10 | 0800 | | | 2 | | |
| | APS-107-45.0-20101111-01 | 11/11/10 | 0841 | | | 2 | | |
| | APS-107-50.0-20101111-01 | 11/11/10 | 0935 | | | 2 | | |
| | APS-106-25.0-20101111-01 | 11/11/10 | 0844 | | | 2 | hold | |
| | APS-106-30.0-20101111-01 | 11/11/10 | 0924 | | | 2 | hold | |
| | APS-106-35.0-20101111-01 | 11/11/10 | 1016 | | | 2 | | |
| | APS-106-41.0-20101111-01 | 11/11/10 | 1116 | | | 2 | | |

18782

Container Type: VOA
Preservative: HCl

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| P. Gilbert | 11/11/10 16:10 | P. Gilbert | 11/11/10 16:10 |
| P. Gilbert | 11/11/10 16:50 | [illegible] | 11/11/10 1650 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:11261009:54

L1018782

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/11/10

ALPHA Job #: L1018782

## Client Information

Client: ERM

Address: 399 Boylston St. Boston MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.PLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON PLATTERY

ALPHA Quote #:

## Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48hr.

Date Due: 11/15/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260 (11/12/10); 8260

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do
(Please specify below).

| ALPHA Lab ID (Lab Use Only) 11/23/10 | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | | | | | | | | | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | APS-107-55.0-20101111-01 | 11/11/10 | 1026 | GW | LSM | 2 | | | | | | | | | | |
| 12 | APS-107-60.0-20101111-01 | 11/11/10 | 1105 | | | 2 | | | | | | | | | | |
| 13 | APS-106-46.0-20101111-01 | 11/11/10 | 1206 | | | 2 | | | | | | | | | | |
| 14 | APS-107-81.7-20101111-01 | 11/11/10 | 1231 | | | 2 | | | | | | | | | | |
| 15 | APS-106-51.3-20101111-01 | 11/11/10 | 1316 | | | 2 | | | | | | | | | | |
| 16 | APS-107-89.8-20101111-01 | 11/11/10 | 1345 | | | 2 | | | | | | | | | | |
| 17 | EB-09-20101111-01 | 11/11/10 | 1430 | | | 2 | | | | | | | | | | |
| 18 | APS-106-70.3-20101111-01 | 11/11/10 | 1439 | | | 2 | | | | | | | | | | |
| 19 | APS-106-76.6-20101111-01 | 11/11/10 | 1535 | | | 2 | | | | | | | | | | |
| 20 | APS-109-30.0-20101111-01 | 11/11/10 | 1557 | | | 2 | X | | | | | | | | HOLD | |

Container Type: vial

Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| P. Gilbert | 11/11/10 16:10 | P. Gilbert | 11/11/10 16:10 |
| P. Gilbert | 11/11/10 16:50 | [illegible] | 11/11/10 1650 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:11261009:54

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7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018782

Instrument ID: Jack.i  Calibration Date: 23-NOV-2010  Time: 16:24

Lab File ID: 1123N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .61274 | .59116 | .1 | 4 | 20 | |
| chloromethane | .75295 | .85158 | .1 | -13 | 20 | |
| vinyl chloride | .64793 | .66321 | .1 | -2 | 20 | |
| bromomethane | .30313 | .29164 | .1 | 4 | 20 | |
| chloroethane | 100 | 98.744 | .1 | 1 | 20 | |
| trichlorofluoromethane | .65249 | .74262 | .1 | -14 | 20 | |
| ethyl ether | .15724 | .16282 | .05 | -4 | 20 | |
| 1,1,-dichloroethene | .38996 | .40824 | .1 | -5 | 20 | |
| carbon disulfide | 1.0398 | .99358 | .05 | 4 | 20 | |
| methylene chloride | .64771 | .70835 | .05 | -9 | 20 | |
| acetone | 100 | 142 | .1 | -42 | 20 | F |
| trans-1,2-dichloroethene | .66209 | .66251 | .1 | 0 | 20 | |
| methyl tert butyl ether | .93223 | .91059 | .1 | 2 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.1019 | 1.0937 | .05 | 1 | 20 | |
| Diisopropyl Ether | 1.4677 | 1.4617 | .05 | 0 | 20 | |
| 1,1-dichloroethane | 1.1648 | 1.2181 | .2 | -5 | 20 | |
| cis-1,2-dichloroethene | .69628 | .83238 | .1 | -20 | 20 | |
| 2,2-dichloropropane | .67519 | .77982 | .05 | -15 | 20 | |
| bromochloromethane | .28457 | .30477 | .05 | -7 | 20 | |
| chloroform | 1.0901 | 1.1711 | .2 | -7 | 20 | |
| carbontetrachloride | .67929 | .75316 | .1 | -11 | 20 | |
| tetrahydrofuran | .10507 | .12969 | .05 | -23 | 20 | F |
| 1,1,1-trichloroethane | .8383 | .89102 | .1 | -6 | 20 | |
| Tertiary-Amyl Methyl Ether | .8416 | .91595 | .05 | -9 | 20 | |
| 1,1-dichloropropene | .83584 | .87986 | .05 | -5 | 20 | |
| 2-butanone | .1097 | .14559 | .1 | -33 | 20 | F |
| benzene | 2.4877 | 2.6749 | .5 | -8 | 20 | |
| 1,2-dichloroethane | .62372 | .72362 | .1 | -16 | 20 | |
| trichloroethene | .60611 | .62292 | .2 | -3 | 20 | |
| dibromomethane | .28942 | .3271 | .05 | -13 | 20 | |
| 1,2-dichloropropane | .61145 | .60792 | .1 | 1 | 20 | |
| bromodichloromethane | .74826 | .79146 | .2 | -6 | 20 | |
| 1,4-dioxane | .00185 | .00287 | .05 | -56 | 20 | F |
| cis-1,3-dichloropropene | .74493 | .75723 | .2 | -2 | 20 | |
| toluene | 2.0165 | 2.0734 | .4 | -3 | 20 | |
| tetrachloroethene | .85833 | .89427 | .2 | -4 | 20 | |
| 4-methyl-2-pentanone | .09211 | .11445 | .1 | -24 | 20 | F |
| trans-1,3-dichloropropene | .62596 | .7453 | .1 | -19 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018782

Instrument ID: Jack.i  Calibration Date: 23-NOV-2010  Time: 16:24

Lab File ID: 1123N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .41174 | .44446 | .1 | -8 | 20 | |
| chlorodibromomethane | .5237 | .54933 | .1 | -5 | 20 | |
| 1,3-dichloropropane | .86161 | .96008 | .05 | -11 | 20 | |
| 1,2-dibromoethane | .45829 | .49948 | .1 | -9 | 20 | |
| 2-hexanone | .19053 | .24109 | .1 | -27 | 20 | F |
| chlorobenzene | 2.1543 | 2.1749 | .5 | -1 | 20 | |
| ethyl benzene | 3.7465 | 4.1352 | .1 | -10 | 20 | |
| 1,1,1,2-tetrachloroethane | .57339 | .61288 | .05 | -7 | 20 | |
| p/m xylene | 1.4383 | 1.6131 | .1 | -12 | 20 | |
| o xylene | 1.3632 | 1.5097 | .3 | -11 | 20 | |
| styrene | 2.2452 | 2.4024 | .3 | -7 | 20 | |
| bromoform | .47754 | .53383 | .1 | -12 | 20 | |
| isopropylbenzene | 3.5840 | 3.9695 | .1 | -11 | 20 | |
| bromobenzene | 1.5869 | 1.5889 | .05 | 0 | 20 | |
| n-propylbenzene | 7.5117 | 8.3333 | .05 | -11 | 20 | |
| 1,1,2,2,-tetrachloroethane | .98109 | 1.1068 | .3 | -13 | 20 | |
| 2-chlorotoluene | 5.0111 | 4.7190 | .05 | 6 | 20 | |
| 1,2,3-trichloropropane | .78023 | .87685 | .05 | -12 | 20 | |
| 1,3,5-trimethybenzene | 5.7825 | 5.2974 | .05 | 8 | 20 | |
| 4-chorotoluene | 4.6273 | 4.8479 | .05 | -5 | 20 | |
| tert-butylbenzene | 4.4081 | 4.6713 | .05 | -6 | 20 | |
| 1,2,4-trimethylbenzene | 5.0985 | 5.5699 | .05 | -9 | 20 | |
| sec-butylbenzene | 6.3141 | 6.7860 | .05 | -7 | 20 | |
| p-isopropyltoluene | 4.9959 | 5.5716 | .05 | -12 | 20 | |
| 1,3-dichlorobenzene | 3.0219 | 3.0752 | .6 | -2 | 20 | |
| 1,4-dichlorobenzene | 3.0831 | 3.1515 | .5 | -2 | 20 | |
| n-butylbenzene | 4.3730 | 4.7864 | .05 | -9 | 20 | |
| 1,2-dichlorobenzene | 2.7409 | 2.8196 | .4 | -3 | 20 | |
| 1,2-dibromo-3-chloropropane | .12789 | .1555 | .05 | -22 | 20 | F |
| hexachlorobutadiene | .73224 | .70064 | .05 | 4 | 20 | |
| 1,2,4-trichlorobenzene | 1.7005 | 1.6988 | .2 | 0 | 20 | |
| naphthalene | 2.9306 | 2.9748 | .05 | -2 | 20 | |
| 1,2,3-trichlorobenzene | 1.3936 | 1.4325 | .05 | -3 | 20 | |
| dibromofluoromethane | .26329 | .2666 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .25342 | .27251 | .05 | -8 | 20 | |
| toluene-d8 | 1.2667 | 1.2771 | .05 | -1 | 20 | |
| 4-bromofluorobenzene | .8428 | .8395 | .05 | 0 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018847 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 12/02/10 |

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Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018847-01 | APS-120-65.0-20101122-01 | WAYLAND, MA | 11/22/10 08:48 |
| L1018847-02 | APS-120-74.2-20101122-01 | WAYLAND, MA | 11/22/10 09:37 |
| L1018847-03 | APS-121-69.0-20101122-01 | WAYLAND, MA | 11/22/10 08:50 |
| L1018847-04 | APS-123-31.8-20101122-01 | WAYLAND, MA | 11/22/10 11:32 |
| L1018847-05 | APS-122-42.2-20101122-01 | WAYLAND, MA | 11/22/10 12:44 |
| L1018847-06 | APS-123-54.2-20101122-01 | WAYLAND, MA | 11/22/10 12:45 |
| L1018847-07 | APS-122-47.1-20101122-01 | WAYLAND, MA | 11/22/10 13:45 |
| L1018847-08 | APS-123-59.8-20101122-01 | WAYLAND, MA | 11/22/10 13:42 |
| L1018847-09 | APS-122-52.1-20101122-01 | WAYLAND, MA | 11/22/10 14:34 |
| L1018847-10 | APS-122-57.8-20101122-01 | WAYLAND, MA | 11/22/10 15:28 |
| L1018847-11 | APS-123-20.0-20101122-01 | WAYLAND, MA | 11/22/10 15:40 |
| L1018847-12 | APS-122-62.8-20101122-01 | WAYLAND, MA | 11/22/10 16:23 |
| L1018847-13 | APS-123-24.9-20101122-01 | WAYLAND, MA | 11/22/10 16:41 |
| L1018847-14 | APS-125-20.0-20101123-01 | WAYLAND, MA | 11/23/10 09:16 |
| L1018847-15 | APS-124-20.6-20101123-01 | WAYLAND, MA | 11/23/10 09:29 |
| L1018847-16 | APS-124-35.0-20101123-01 | WAYLAND, MA | 11/23/10 10:02 |
| L1018847-17 | APS-125-34.0-20101123-01 | WAYLAND, MA | 11/23/10 10:01 |
| L1018847-18 | APS-124-40.0-20101123-01 | WAYLAND, MA | 11/23/10 10:29 |
| L1018847-19 | APS-125-40.0-20101123-01 | WAYLAND, MA | 11/23/10 10:26 |
| L1018847-20 | APS-125-45.0-20101123-01 | WAYLAND, MA | 11/23/10 11:02 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018847
**Project Number:** 0114119 **Report Date:** 12/02/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG445596-1/-2 LCS/LCSD recoveries, associated with L1018847-01 through -18, are above the acceptance criteria for Acetone (LCS at 137%), 2-Butanone (LCS at 136%), and 1,4-Dioxane (160%/142%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The initial calibration, associated with L1018847-01 through -18, did not meet the method required minimum response factors for 4-Methyl-2-pentanone and 1,4-Dioxane; and utilized a quadratic fit for Chloroethane and

**Project Name:** RAYTHEON **Lab Number:** L1018847
**Project Number:** 0114119 **Report Date:** 12/02/10

**Case Narrative (continued)**

Acetone.

The initial calibration, associated with L1018847-19 and -20, did not meet the method required minimum response factor for Acetone and 1,4-Dioxane.

The continuing calibration standards, associated with L1018847-01 through -20, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as addenda to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 12/02/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-01 | Date Collected: | 11/22/10 08:48 |
| Client ID: | APS-120-65.0-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 13:59 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 4.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 51 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-01 Date Collected: 11/22/10 08:48

Client ID: APS-120-65.0-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-01 | Date Collected: | 11/22/10 08:48 |
| Client ID: | APS-120-65.0-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-02 | Date Collected: | 11/22/10 09:37 |
| Client ID: | APS-120-74.2-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 14:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 4.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 48 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-02 Date Collected: 11/22/10 09:37

Client ID: APS-120-74.2-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-02 | Date Collected: | 11/22/10 09:37 |
| Client ID: | APS-120-74.2-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-03 | Date Collected: | 11/22/10 08:50 |
| Client ID: | APS-121-69.0-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 15:04 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 71 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-03 Date Collected: 11/22/10 08:50

Client ID: APS-121-69.0-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-03 | Date Collected: | 11/22/10 08:50 |
| Client ID: | APS-121-69.0-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-04 | Date Collected: | 11/22/10 11:32 |
| Client ID: | APS-123-31.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 15:36 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 4.5 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 18 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-04 Date Collected: 11/22/10 11:32

Client ID: APS-123-31.8-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-04 | Date Collected: | 11/22/10 11:32 |
| Client ID: | APS-123-31.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-05 | Date Collected: | 11/22/10 12:44 |
| Client ID: | APS-122-42.2-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 16:08 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | 2.3 | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 4.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 52 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-05 Date Collected: 11/22/10 12:44

Client ID: APS-122-42.2-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-05 | Date Collected: | 11/22/10 12:44 |
| Client ID: | APS-122-42.2-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-06 | Date Collected: | 11/22/10 12:45 |
| Client ID: | APS-123-54.2-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 16:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 200 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-06 Date Collected: 11/22/10 12:45

Client ID: APS-123-54.2-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 24 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-06 | Date Collected: | 11/22/10 12:45 |
| Client ID: | APS-123-54.2-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-07 | Date Collected: | 11/22/10 13:45 |
| Client ID: | APS-122-47.1-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 17:12 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | 1.8 | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 6.8 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 75 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-07 Date Collected: 11/22/10 13:45

Client ID: APS-122-47.1-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-07 | Date Collected: | 11/22/10 13:45 |
| Client ID: | APS-122-47.1-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-08 | Date Collected: | 11/22/10 13:42 |
| Client ID: | APS-123-59.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 17:44 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-08 Date Collected: 11/22/10 13:42

Client ID: APS-123-59.8-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 2.4 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-08 | Date Collected: | 11/22/10 13:42 |
| Client ID: | APS-123-59.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-09 | Date Collected: | 11/22/10 14:34 |
| Client ID: | APS-122-52.1-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 18:16 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 7.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-09 Date Collected: 11/22/10 14:34

Client ID: APS-122-52.1-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-09 | Date Collected: | 11/22/10 14:34 |
| Client ID: | APS-122-52.1-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-10 | Date Collected: | 11/22/10 15:28 |
| Client ID: | APS-122-57.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 18:49 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-10 Date Collected: 11/22/10 15:28

Client ID: APS-122-57.8-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-10 | Date Collected: | 11/22/10 15:28 |
| Client ID: | APS-122-57.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-11 | Date Collected: | 11/22/10 15:40 |
| Client ID: | APS-123-20.0-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 19:21 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-11 Date Collected: 11/22/10 15:40

Client ID: APS-123-20.0-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-11 | Date Collected: | 11/22/10 15:40 |
| Client ID: | APS-123-20.0-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 113 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-12 | Date Collected: | 11/22/10 16:23 |
| Client ID: | APS-122-62.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 19:53 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-12 Date Collected: 11/22/10 16:23

Client ID: APS-122-62.8-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-12 | Date Collected: | 11/22/10 16:23 |
| Client ID: | APS-122-62.8-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-13 | Date Collected: | 11/22/10 16:41 |
| Client ID: | APS-123-24.9-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 20:25 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-13 Date Collected: 11/22/10 16:41

Client ID: APS-123-24.9-20101122-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-13 | Date Collected: | 11/22/10 16:41 |
| Client ID: | APS-123-24.9-20101122-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-14 | Date Collected: | 11/23/10 09:16 |
| Client ID: | APS-125-20.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 20:57 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-14 Date Collected: 11/23/10 09:16

Client ID: APS-125-20.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-14 | Date Collected: | 11/23/10 09:16 |
| Client ID: | APS-125-20.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-15 | Date Collected: | 11/23/10 09:29 |
| Client ID: | APS-124-20.6-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 21:29 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-15 Date Collected: 11/23/10 09:29

Client ID: APS-124-20.6-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-15 | Date Collected: | 11/23/10 09:29 |
| Client ID: | APS-124-20.6-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-16 | Date Collected: | 11/23/10 10:02 |
| Client ID: | APS-124-35.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 22:02 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-16 Date Collected: 11/23/10 10:02

Client ID: APS-124-35.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-16 | Date Collected: | 11/23/10 10:02 |
| Client ID: | APS-124-35.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-17 | Date Collected: | 11/23/10 10:01 |
| Client ID: | APS-125-34.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 22:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-17 Date Collected: 11/23/10 10:01

Client ID: APS-125-34.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-17 | Date Collected: | 11/23/10 10:01 |
| Client ID: | APS-125-34.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-18 | Date Collected: | 11/23/10 10:29 |
| Client ID: | APS-124-40.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 23:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-18 Date Collected: 11/23/10 10:29

Client ID: APS-124-40.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-18 | Date Collected: | 11/23/10 10:29 |
| Client ID: | APS-124-40.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-19 | Date Collected: | 11/23/10 10:26 |
| Client ID: | APS-125-40.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 22:18 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 25 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-19 Date Collected: 11/23/10 10:26

Client ID: APS-125-40.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-19 | Date Collected: | 11/23/10 10:26 |
| Client ID: | APS-125-40.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-20 | Date Collected: | 11/23/10 11:02 |
| Client ID: | APS-125-45.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 11/30/10 22:50 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 33 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018847-20 Date Collected: 11/23/10 11:02

Client ID: APS-125-45.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018847-20 | Date Collected: | 11/23/10 11:02 |
| Client ID: | APS-125-45.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/30/10 13:27
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-18 Batch: WG445596-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/30/10 13:27
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-18 Batch: WG445596-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/30/10 13:27
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-18 Batch: WG445596-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/30/10 13:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 19-20 Batch: WG445597-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/30/10 13:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 19-20 Batch: WG445597-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018847

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 11/30/10 13:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 19-20 Batch: WG445597-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

Tentatively Identified Compounds

| | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| D bromofluoromethane | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-18 Batch: WG445596-1 WG445596-2 | | | | | | | | |
| Methylene chloride | 98 | | 97 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Chloroform | 98 | | 96 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 103 | | 104 | | 70-130 | 1 | | 20 |
| 1,2-Dichloropropane | 93 | | 91 | | 70-130 | 2 | | 20 |
| Dibromochloromethane | 103 | | 97 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 104 | | 97 | | 70-130 | 7 | | 20 |
| Tetrachloroethene | 94 | | 93 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 107 | | 106 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 107 | | 103 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 99 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 115 | | 112 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 99 | | 95 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Bromoform | 108 | | 106 | | 70-130 | 2 | | 20 |
| 1,1,2,2-Tetrachloroethane | 104 | | 104 | | 70-130 | 0 | | 20 |
| Benzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Toluene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 101 | | 100 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-18 Batch: WG445596-1 WG445596-2 | | | | | | | | |
| Chloromethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| Bromomethane | 94 | | 88 | | 70-130 | 7 | | 20 |
| Vinyl chloride | 94 | | 92 | | 70-130 | 2 | | 20 |
| Chloroethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 98 | | 98 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 90 | | 90 | | 70-130 | 0 | | 20 |
| Trichloroethene | 97 | | 95 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 95 | | 97 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 104 | | 97 | | 70-130 | 7 | | 20 |
| p/m-Xylene | 103 | | 102 | | 70-130 | 1 | | 20 |
| o-Xylene | 103 | | 102 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Dibromomethane | 104 | | 99 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 104 | | 102 | | 70-130 | 2 | | 20 |
| Styrene | 102 | | 101 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 100 | | 99 | | 70-130 | 1 | | 20 |
| Acetone | **137** | Q | 121 | | 70-130 | 12 | | 20 |
| Carbon disulfide | 82 | | 84 | | 70-130 | 2 | | 20 |
| 2-Butanone | **136** | Q | 122 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-18 Batch: WG445596-1 WG445596-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 113 | | 106 | | 70-130 | 6 | | 20 |
| 2-Hexanone | 119 | | 103 | | 70-130 | 14 | | 20 |
| Bromochloromethane | 98 | | 95 | | 70-130 | 3 | | 20 |
| Tetrahydrofuran | 122 | | 109 | | 70-130 | 11 | | 20 |
| 2,2-Dichloropropane | 105 | | 105 | | 70-130 | 0 | | 20 |
| 1,2-Dibromoethane | 103 | | 96 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 105 | | 99 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | 102 | | 99 | | 70-130 | 3 | | 20 |
| Bromobenzene | 94 | | 98 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 99 | | 103 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 99 | | 102 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 87 | | 89 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 96 | | 102 | | 70-130 | 6 | | 20 |
| 1,2-Dibromo-3-chloropropane | 107 | | 107 | | 70-130 | 0 | | 20 |
| Hexachlorobutadiene | 86 | | 92 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 103 | | 101 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 102 | | 104 | | 70-130 | 2 | | 20 |
| Naphthalene | 95 | | 94 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 101 | | 104 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 93 | | 94 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-18 Batch: WG445596-1 WG445596-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 84 | | 86 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 99 | | 101 | | 70-130 | 2 | | 20 |
| Ethyl ether | 115 | | 106 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 101 | | 100 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 101 | | 97 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 109 | | 103 | | 70-130 | 6 | | 20 |
| 1,4-Dioxane | **160** | Q | **142** | Q | 70-130 | 12 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 102 | | 70-130 |
| Toluene-d8 | 101 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 105 | | 70-130 |
| Dibromofluoromethane | 101 | | 98 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG445597-1 WG445597-2 | | | | | | | | |
| Methylene chloride | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 97 | | 101 | | 70-130 | 4 | | 20 |
| Chloroform | 100 | | 102 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 94 | | 105 | | 70-130 | 11 | | 20 |
| Dibromochloromethane | 92 | | 99 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 104 | | 70-130 | 8 | | 20 |
| Tetrachloroethene | 97 | | 101 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 120 | | 119 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 103 | | 106 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 96 | | 99 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 98 | | 101 | | 70-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 94 | | 98 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 89 | | 94 | | 70-130 | 5 | | 20 |
| 1,1-Dichloropropene | 101 | | 103 | | 70-130 | 2 | | 20 |
| Bromoform | 93 | | 103 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 104 | | 70-130 | 8 | | 20 |
| Benzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Toluene | 99 | | 101 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 108 | | 108 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG445597-1 WG445597-2 | | | | | | | | |
| Chloromethane | 107 | | 109 | | 70-130 | 2 | | 20 |
| Bromomethane | 104 | | 110 | | 70-130 | 6 | | 20 |
| Vinyl chloride | 103 | | 106 | | 70-130 | 3 | | 20 |
| Chloroethane | 99 | | 102 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 104 | | 105 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Trichloroethene | 98 | | 97 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 99 | | 104 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 104 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 101 | | 104 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 84 | | 92 | | 70-130 | 9 | | 20 |
| p/m-Xylene | 107 | | 108 | | 70-130 | 1 | | 20 |
| o-Xylene | 106 | | 109 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 102 | | 70-130 | 2 | | 20 |
| Dibromomethane | 102 | | 103 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 110 | | 70-130 | 11 | | 20 |
| Styrene | 107 | | 109 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 108 | | 112 | | 70-130 | 4 | | 20 |
| Acetone | 107 | | 104 | | 70-130 | 3 | | 20 |
| Carbon disulfide | 86 | | 86 | | 70-130 | 0 | | 20 |
| 2-Butanone | 100 | | 107 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG445597-1 WG445597-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 88 | | 98 | | 70-130 | 11 | | 20 |
| 2-Hexanone | 87 | | 101 | | 70-130 | 15 | | 20 |
| Bromochloromethane | 97 | | 99 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 86 | | 102 | | 70-130 | 17 | | 20 |
| 2,2-Dichloropropane | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 96 | | 101 | | 70-130 | 5 | | 20 |
| 1,3-Dichloropropane | 99 | | 107 | | 70-130 | 8 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 101 | | 70-130 | 3 | | 20 |
| Bromobenzene | 98 | | 102 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 106 | | 106 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 104 | | 106 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 102 | | 103 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 95 | | 96 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 107 | | 107 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 88 | | 101 | | 70-130 | 14 | | 20 |
| Hexachlorobutadiene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 104 | | 105 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 106 | | 108 | | 70-130 | 2 | | 20 |
| Naphthalene | 86 | | 96 | | 70-130 | 11 | | 20 |
| n-Propylbenzene | 108 | | 109 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 89 | | 96 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 19-20 Batch: WG445597-1 WG445597-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,3,5-Trimethylbenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 108 | | 111 | | 70-130 | 3 | | 20 |
| Ethyl ether | 94 | | 102 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 97 | | 103 | | 70-130 | 6 | | 20 |
| Ethyl-Tert-Butyl-Ether | 91 | | 99 | | 70-130 | 8 | | 20 |
| Tertiary-Amyl Methyl Ether | 95 | | 104 | | 70-130 | 9 | | 20 |
| 1,4-Dioxane | 112 | | 126 | | 70-130 | 12 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 104 | | 70-130 |
| Toluene-d8 | 102 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 100 | | 70-130 |
| Dibromofluoromethane | 101 | | 102 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018847-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018847
**Report Date:** 12/02/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018847-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-15A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-15B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-16A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-16B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-17A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-17B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-18A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-18B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-19A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-19B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-20A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018847-20B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON **Lab Number:** L1018847
**Project Number:** 0114119 **Report Date:** 12/02/10

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018847 |
| **Project Number:** | 0114119 | **Report Date:** | 12/02/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018847
**Project Number:** 0114119 **Report Date:** 12/02/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 4

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/23/10

ALPHA Job #: L1018847

## Client Information

Client: ERM

Address: 399 Boylston St. Boston MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JALON.FLATTERY@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: J. FLATTERY

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!) 24hr

Date Due: 12/2/10 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for Inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☒ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8847 1 | APS-120-65.0-20101122-01 | 11/22/10 | 0848 | GW | LJM | 2 | | |
| 2 | APS-120-74.2-20101122-01 | | 0937 | | | | | |
| 3 | APS-121-69.0-20101122-01 | | 0850 | | | | | |
| 4 | APS-123-31.8-20101122-01 | | 1132 | | | | | |
| 5 | APS-122-42.2-20101122-01 | | 1244 | | | | | |
| 6 | APS-123-54.2-20101122-01 | | 1245 | | | | | |
| 7 | APS-122-47.1-20101122-01 | | 1345 | | | | | |
| 8 | APS-123-59.8-20101122-01 | | 1342 | | | | | |
| 9 | APS-122-52.1-20101122-01 | | 1434 | | | | | |
| 10 | APS-122-57.8-20101122-01 | | 1528 | | | | | |

| | | |
|---|---|---|
| Container Type | VIAL | |
| Preservative | HCL | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/23/2010 1700 | [signature] | 11-23-10 1 |
| [signature] | 11-23-10 | [signature] | 11/23/10 1 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:12021010:46

# CHAIN OF CUSTODY

PAGE 2 OF 4

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/23/10

ALPHA Job #: L1018847

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON

Project Location: WAYLAND MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/2/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client Info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 6847-11 | APS-123-20.0-20101122-01 | 11/22/10 | 1540 | GW | LSM | 2 | | |
| 12 | APS-122-62.8-20101122-01 | ↓ | 1623 | ↓ | ↓ | ↓ | | |
| 13 | APS-123-24.9-20101122-01 | ↓ | 1641 | ↓ | ↓ | ↓ | | |
| 14 | APS-125-20.0-20101123-01 | 11/23 | 0916 | ↓ | ↓ | ↓ | | |
| 15 | APS-124-20.6-20101123-01 | ↓ | 0929 | ↓ | ↓ | ↓ | | |
| 16 | APS-124-35.0-20101123-01 | ↓ | 1002 | ↓ | ↓ | ↓ | | |
| 17 | APS-125-34.0-20101123-01 | ↓ | 1001 | ↓ | ↓ | ↓ | | |
| 18 | APS-124-40.0-20101123-01 | ↓ | 1029 | ↓ | ↓ | ↓ | | |
| 19 | APS-125-40.0-20101123-01 | ↓ | 1026 | ↓ | ↓ | ↓ | | |
| 20 | APS-125-45.0-20101123-01 | ↓ | 1102 | ↓ | ↓ | ↓ | | |

Container Type: VIAL
Preservative: HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/23/2010 1700 | [signature] | 11-23-10 [illegible] |
| [signature] | 11-23-10 | [signature] | 11/23/10 18[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018847

Instrument ID: Jack.i  Calibration Date: 30-NOV-2010  Time: 11:52

Lab File ID: 1130N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: wg445596-1,31,1  Init. Calib. Times : 07:20  12:43

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .61274 | .60952 | .1 | 1 | 20 | |
| chloromethane | .75295 | .71968 | .1 | 4 | 20 | |
| vinyl chloride | .64793 | .60848 | .1 | 6 | 20 | |
| bromomethane | .30313 | .28339 | .1 | 7 | 20 | |
| chloroethane | 100 | 89.901 | .1 | 10 | 20 | |
| trichlorofluoromethane | .65249 | .69973 | .1 | -7 | 20 | |
| ethyl ether | .15724 | .18052 | .05 | -15 | 20 | |
| 1,1,-dichloroethene | .38996 | .38015 | .1 | 3 | 20 | |
| carbon disulfide | 1.0398 | .85552 | .05 | 18 | 20 | |
| methylene chloride | .64771 | .6375 | .05 | 2 | 20 | |
| acetone | 100 | 137 | .1 | -37 | 20 | F |
| trans-1,2-dichloroethene | .66209 | .59515 | .1 | 10 | 20 | |
| methyl tert butyl ether | .93223 | .97278 | .1 | -4 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.1019 | 1.1154 | .05 | -1 | 20 | |
| Diisopropyl Ether | 1.4677 | 1.4881 | .05 | -1 | 20 | |
| 1,1-dichloroethane | 1.1648 | 1.1160 | .2 | 4 | 20 | |
| cis-1,2-dichloroethene | .69628 | .68148 | .1 | 2 | 20 | |
| 2,2-dichloropropane | .67519 | .70786 | .05 | -5 | 20 | |
| bromochloromethane | .28457 | .27784 | .05 | 2 | 20 | |
| chloroform | 1.0901 | 1.0733 | .2 | 2 | 20 | |
| carbontetrachloride | .67929 | .70304 | .1 | -3 | 20 | |
| tetrahydrofuran | .10507 | .12786 | .05 | -22 | 20 | F |
| 1,1,1-trichloroethane | .8383 | .8378 | .1 | 0 | 20 | |
| Tertiary-Amyl Methyl Ether | .8416 | .91949 | .05 | -9 | 20 | |
| 1,1-dichloropropene | .83584 | .8166 | .05 | 2 | 20 | |
| 2-butanone | .1097 | .14964 | .1 | -36 | 20 | F |
| benzene | 2.4877 | 2.4305 | .5 | 2 | 20 | |
| 1,2-dichloroethane | .62372 | .67016 | .1 | -7 | 20 | |
| trichloroethene | .60611 | .58595 | .2 | 3 | 20 | |
| dibromomethane | .28942 | .30014 | .05 | -4 | 20 | |
| 1,2-dichloropropane | .61145 | .56718 | .1 | 7 | 20 | |
| bromodichloromethane | .74826 | .75093 | .2 | 0 | 20 | |
| 1,4-dioxane | .00185 | .00295 | .05 | -60 | 20 | F |
| cis-1,3-dichloropropene | .74493 | .73452 | .2 | 1 | 20 | |
| toluene | 2.0165 | 1.9148 | .4 | 5 | 20 | |
| tetrachloroethene | .85833 | .80236 | .2 | 7 | 20 | |
| 4-methyl-2-pentanone | .09211 | .10422 | .1 | -13 | 20 | F |
| trans-1,3-dichloropropene | .62596 | .72074 | .1 | -15 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018847

Instrument ID: Jack.i  Calibration Date: 30-NOV-2010  Time: 11:52

Lab File ID: 1130N02  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: wg445596-1,31,1  Init. Calib. Times : 07:20  12:43

| Compound | RRF | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .41174 | .42926 | .1 | -4 | 20 |
| chlorodibromomethane | .5237 | .53803 | .1 | -3 | 20 |
| 1,3-dichloropropane | .86161 | .90563 | .05 | -5 | 20 |
| 1,2-dibromoethane | .45829 | .47216 | .1 | -3 | 20 |
| 2-hexanone | .19053 | .2263 | .1 | -19 | 20 |
| chlorobenzene | 2.1543 | 2.0181 | .5 | 6 | 20 |
| ethyl benzene | 3.7465 | 3.8023 | .1 | -1 | 20 |
| 1,1,1,2-tetrachloroethane | .57339 | .58651 | .05 | -2 | 20 |
| p/m xylene | 1.4383 | 1.4850 | .1 | -3 | 20 |
| o xylene | 1.3632 | 1.4040 | .3 | -3 | 20 |
| styrene | 2.2452 | 2.2857 | .3 | -2 | 20 |
| bromoform | .47754 | .51702 | .1 | -8 | 20 |
| isopropylbenzene | 3.5840 | 3.7009 | .1 | -3 | 20 |
| bromobenzene | 1.5869 | 1.4880 | .05 | 6 | 20 |
| n-propylbenzene | 7.5117 | 7.5837 | .05 | -1 | 20 |
| 1,1,2,2,-tetrachloroethane | .98109 | 1.0209 | .3 | -4 | 20 |
| 2-chlorotoluene | 5.0111 | 4.3556 | .05 | 13 | 20 |
| 1,2,3-trichloropropane | .78023 | .8161 | .05 | -5 | 20 |
| 1,3,5-trimethybenzene | 5.7825 | 4.8740 | .05 | 16 | 20 |
| 4-chorotoluene | 4.6273 | 4.4632 | .05 | 4 | 20 |
| tert-butylbenzene | 4.4081 | 4.2992 | .05 | 2 | 20 |
| 1,2,4-trimethylbenzene | 5.0985 | 5.0372 | .05 | 1 | 20 |
| sec-butylbenzene | 6.3141 | 6.2690 | .05 | 1 | 20 |
| p-isopropyltoluene | 4.9959 | 5.1248 | .05 | -3 | 20 |
| 1,3-dichlorobenzene | 3.0219 | 2.8969 | .6 | 4 | 20 |
| 1,4-dichlorobenzene | 3.0831 | 2.9214 | .5 | 5 | 20 |
| n-butylbenzene | 4.3730 | 4.3442 | .05 | 1 | 20 |
| 1,2-dichlorobenzene | 2.7409 | 2.6700 | .4 | 3 | 20 |
| 1,2-dibromo-3-chloropropane | .12789 | .1366 | .05 | -7 | 20 |
| hexachlorobutadiene | .73224 | .63101 | .05 | 14 | 20 |
| 1,2,4-trichlorobenzene | 1.7005 | 1.5735 | .2 | 7 | 20 |
| naphthalene | 2.9306 | 2.7904 | .05 | 5 | 20 |
| 1,2,3-trichlorobenzene | 1.3936 | 1.2983 | .05 | 7 | 20 |
| dibromofluoromethane | .26329 | .26597 | .05 | -1 | 20 |
| 1,2-dichloroethane-d4 | .25342 | .26987 | .05 | -6 | 20 |
| toluene-d8 | 1.2667 | 1.2754 | .05 | -1 | 20 |
| 4-bromofluorobenzene | .8428 | .83518 | .05 | 1 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018847

Instrument ID: Jack.i  Calibration Date: 30-NOV-2010  Time: 11:36

Lab File ID: 1130N01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:25  10:11

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .59257 | .64105 | .1 | -8 | 20 | |
| chloromethane | .79246 | .84679 | .1 | -7 | 20 | |
| vinyl chloride | .65451 | .67232 | .1 | -3 | 20 | |
| bromomethane | .2802 | .29001 | .1 | -4 | 20 | |
| chloroethane | .26586 | .26363 | .1 | 1 | 20 | |
| trichlorofluoromethane | .64039 | .76745 | .1 | -20 | 20 | |
| ethyl ether | .17865 | .16758 | .05 | 6 | 20 | |
| 1,1,-dichloroethene | .38963 | .40667 | .1 | -4 | 20 | |
| carbon disulfide | 1.0639 | .91731 | .1 | 14 | 20 | |
| methylene chloride | .64676 | .6327 | .1 | 2 | 20 | |
| acetone | .08018 | .08607 | .1 | -7 | 20 | F |
| trans-1,2-dichloroethene | .65648 | .61414 | .1 | 6 | 20 | |
| methyl tert butyl ether | 1.1716 | .98966 | .1 | 16 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4236 | 1.2988 | .05 | 9 | 20 | |
| Diisopropyl Ether | 1.8059 | 1.7550 | .01 | 3 | 20 | |
| 1,1-dichloroethane | 1.1604 | 1.1274 | .2 | 3 | 20 | |
| cis-1,2-dichloroethene | .68626 | .68443 | .1 | 0 | 20 | |
| 2,2-dichloropropane | .81224 | .76076 | .05 | 6 | 20 | |
| bromochloromethane | .27984 | .27142 | .05 | 3 | 20 | |
| chloroform | 1.0788 | 1.0831 | .2 | 0 | 20 | |
| carbontetrachloride | .78379 | .76385 | .1 | 3 | 20 | |
| tetrahydrofuran | .114 | .09826 | .05 | 14 | 20 | |
| 1,1,1-trichloroethane | .92031 | .88021 | .1 | 4 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.0980 | 1.0411 | .05 | 5 | 20 | |
| 1,1-dichloropropene | .92761 | .93833 | .05 | -1 | 20 | |
| 2-butanone | .13125 | .13176 | .1 | 0 | 20 | |
| benzene | 2.7435 | 2.7397 | .5 | 0 | 20 | |
| 1,2-dichloroethane | .62502 | .64345 | .1 | -3 | 20 | |
| trichloroethene | .69092 | .68018 | .2 | 2 | 20 | |
| dibromomethane | .28051 | .28497 | .05 | -2 | 20 | |
| 1,2-dichloropropane | .67196 | .63202 | .1 | 6 | 20 | |
| bromodichloromethane | .78928 | .77269 | .2 | 2 | 20 | |
| 1,4-dioxane | .00214 | .0024 | .05 | -12 | 20 | F |
| cis-1,3-dichloropropene | .89499 | .79878 | .2 | 11 | 20 | |
| toluene | 2.2810 | 2.2621 | .4 | 1 | 20 | |
| tetrachloroethene | .97535 | .95044 | .2 | 3 | 20 | |
| 4-methyl-2-pentanone | .11804 | .10375 | .1 | 12 | 20 | |
| trans-1,3-dichloropropene | .88607 | .833 | .1 | 6 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018847

Instrument ID: Jack.i  Calibration Date: 30-NOV-2010  Time: 11:36

Lab File ID: 1130N01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:25  10:11

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .48068 | .46131 | .1 | 4 | 20 |
| chlorodibromomethane | .6257 | .5775 | .1 | 8 | 20 |
| 1,3-dichloropropane | 1.0091 | 1.0027 | .05 | 1 | 20 |
| 1,2-dibromoethane | .52613 | .50265 | .1 | 4 | 20 |
| 2-hexanone | .24914 | .21588 | .1 | 13 | 20 |
| chlorobenzene | 2.4044 | 2.2982 | .5 | 4 | 20 |
| ethyl benzene | 4.1069 | 4.4237 | .1 | -8 | 20 |
| 1,1,1,2-tetrachloroethane | .73548 | .7202 | .05 | 2 | 20 |
| p/m xylene | 1.5647 | 1.6784 | .1 | -7 | 20 |
| o xylene | 1.4772 | 1.5745 | .3 | -7 | 20 |
| styrene | 2.4064 | 2.5841 | .3 | -7 | 20 |
| bromoform | .61483 | .57327 | .1 | 7 | 20 |
| isopropylbenzene | 3.8613 | 4.0069 | .1 | -4 | 20 |
| bromobenzene | 1.7919 | 1.7583 | .05 | 2 | 20 |
| n-propylbenzene | 8.2501 | 8.9074 | .05 | -8 | 20 |
| 1,1,2,2,-tetrachloroethane | 1.1598 | 1.1176 | .3 | 4 | 20 |
| 2-chlorotoluene | 5.6467 | 5.3564 | .05 | 5 | 20 |
| 1,2,3-trichloropropane | .90634 | .89559 | .05 | 1 | 20 |
| 1,3,5-trimethybenzene | 5.7107 | 5.8233 | .05 | -2 | 20 |
| 4-chorotoluene | 5.2359 | 5.5866 | .05 | -7 | 20 |
| tert-butylbenzene | 4.8401 | 4.9215 | .05 | -2 | 20 |
| 1,2,4-trimethylbenzene | 5.6215 | 6.0892 | .05 | -8 | 20 |
| sec-butylbenzene | 6.6993 | 6.9644 | .01 | -4 | 20 |
| p-isopropyltoluene | 5.3807 | 5.7330 | .05 | -7 | 20 |
| 1,3-dichlorobenzene | 3.3043 | 3.3208 | .6 | 0 | 20 |
| 1,4-dichlorobenzene | 3.3536 | 3.3947 | .5 | -1 | 20 |
| n-butylbenzene | 4.5010 | 4.7518 | .05 | -6 | 20 |
| 1,2-dichlorobenzene | 2.9728 | 2.932 | .4 | 1 | 20 |
| 1,2-dibromo-3-chloropropane | .14496 | .12688 | .05 | 12 | 20 |
| hexachlorobutadiene | .70963 | .67029 | .05 | 6 | 20 |
| 1,2,4-trichlorobenzene | 1.6854 | 1.5885 | .2 | 6 | 20 |
| naphthalene | 2.9808 | 2.5670 | .05 | 14 | 20 |
| 1,2,3-trichlorobenzene | 1.4212 | 1.2692 | .05 | 11 | 20 |
| dibromofluoromethane | .22675 | .22875 | .05 | -1 | 20 |
| 1,2-dichloroethane-d4 | .21878 | .22408 | .05 | -2 | 20 |
| toluene-d8 | 1.3004 | 1.3200 | .01 | -2 | 20 |
| 4-bromofluorobenzene | .88474 | .88387 | .05 | 0 | 20 |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018848 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/02/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018848-01 | APS-124-46.4-20101123-01 | WAYLAND | 11/23/10 11:08 |
| L1018848-02 | APS-124-51.5-20101123-01 | WAYLAND | 11/23/10 11:43 |
| L1018848-03 | APS-125-56.5-20101123-01 | WAYLAND | 11/23/10 11:50 |
| L1018848-04 | APS-124-56.6-20101123-01 | WAYLAND | 11/23/10 12:17 |
| L1018848-05 | APS-125-61.5-20101123-01 | WAYLAND | 11/23/10 12:23 |
| L1018848-06 | APS-124-61.5-20101123-01 | WAYLAND | 11/23/10 12:56 |
| L1018848-07 | APS-124-66.7-20101123-01 | WAYLAND | 11/23/10 13:34 |
| L1018848-08 | APS-125-69.7-20101123-01 | WAYLAND | 11/23/10 13:08 |
| L1018848-09 | APS-124-70.5-20101123-01 | WAYLAND | 11/23/10 14:32 |
| L1018848-10 | APS-127-20.0-20101123-01 | WAYLAND | 11/23/10 14:58 |
| L1018848-11 | APS-127-40.0-20101123-01 | WAYLAND | 11/23/10 16:28 |
| L1018848-12 | APS-127-35.0-20101123-01 | WAYLAND | 11/23/10 15:37 |
| L1018848-13 | APS-124-75.0-20101123-01 | WAYLAND | 11/23/10 15:21 |
| L1018848-14 | APS-126-20.0-20101123-01 | WAYLAND | 11/23/10 16:44 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848
**Project Number:** 0114119 **Report Date:** 12/02/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG445662-1/-2 LCS/LCSD recoveries, associated with L1018848-04 through -14, are above the acceptance criteria for 1,4-Dioxane (140%/138%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The WG445665-2 LCSD recovery, associated with L1018848-01, -02 and -03, is above the acceptance criteria for 1,4-Dioxane (143%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all positive detects are

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848
**Project Number:** 0114119 **Report Date:** 12/02/10

**Case Narrative (continued)**

considered to have a potentially high bias for this compound.

The initial calibration, associated with L1018848-04 through -14, did not meet the method required minimum response factor for 4-Methyl-2-pentanone and 1,4-Dioxane; and utilized a quadratic fit for Chloroethane and Acetone.

The initial calibration, associated with L1018848-01, -02 and -03, did not meet the method required minimum response factor for Acetone and 1,4-Dioxane.

The continuing calibration standards, associated with L1018848-01 through -14 are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/02/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-01 | Date Collected: | 11/23/10 11:08 |
| Client ID: | APS-124-46.4-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 08:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-01 Date Collected: 11/23/10 11:08

Client ID: APS-124-46.4-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-01 | Date Collected: | 11/23/10 11:08 |
| Client ID: | APS-124-46.4-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-02 | Date Collected: | 11/23/10 11:43 |
| Client ID: | APS-124-51.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 08:45 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.8 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-02 Date Collected: 11/23/10 11:43

Client ID: APS-124-51.5-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-02 | Date Collected: | 11/23/10 11:43 |
| Client ID: | APS-124-51.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-03 | Date Collected: | 11/23/10 11:50 |
| Client ID: | APS-125-56.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 09:17 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 36 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-03 Date Collected: 11/23/10 11:50

Client ID: APS-125-56.5-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 3.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-03 | Date Collected: | 11/23/10 11:50 |
| Client ID: | APS-125-56.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-04 | Date Collected: | 11/23/10 12:17 |
| Client ID: | APS-124-56.6-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 10:05 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.6 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-04 Date Collected: 11/23/10 12:17

Client ID: APS-124-56.6-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-04 | Date Collected: | 11/23/10 12:17 |
| Client ID: | APS-124-56.6-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 113 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-05 | Date Collected: | 11/23/10 12:23 |
| Client ID: | APS-125-61.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 10:38 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 82 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-05 Date Collected: 11/23/10 12:23

Client ID: APS-125-61.5-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 11 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-05 | Date Collected: | 11/23/10 12:23 |
| Client ID: | APS-125-61.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-06 | Date Collected: | 11/23/10 12:56 |
| Client ID: | APS-124-61.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 11:10 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 3.0 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 7.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 110 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-06 Date Collected: 11/23/10 12:56

Client ID: APS-124-61.5-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 3.0 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-06 | Date Collected: | 11/23/10 12:56 |
| Client ID: | APS-124-61.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-07 | Date Collected: | 11/23/10 13:34 |
| Client ID: | APS-124-66.7-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 11:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 5.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-07 Date Collected: 11/23/10 13:34

Client ID: APS-124-66.7-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 9.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-07 | Date Collected: | 11/23/10 13:34 |
| Client ID: | APS-124-66.7-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 113 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-08 | Date Collected: | 11/23/10 13:08 |
| Client ID: | APS-125-69.7-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 12:14 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 40 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-08 Date Collected: 11/23/10 13:08

Client ID: APS-125-69.7-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 14 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-08 | Date Collected: | 11/23/10 13:08 |
| Client ID: | APS-125-69.7-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-09 | Date Collected: | 11/23/10 14:32 |
| Client ID: | APS-124-70.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 12:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 7.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-09 Date Collected: 11/23/10 14:32

Client ID: APS-124-70.5-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 9.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-09 | Date Collected: | 11/23/10 14:32 |
| Client ID: | APS-124-70.5-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-10 | Date Collected: | 11/23/10 14:58 |
| Client ID: | APS-127-20.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 13:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-10 Date Collected: 11/23/10 14:58

Client ID: APS-127-20.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-10 | Date Collected: | 11/23/10 14:58 |
| Client ID: | APS-127-20.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-11 | Date Collected: | 11/23/10 16:28 |
| Client ID: | APS-127-40.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 13:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-11 Date Collected: 11/23/10 16:28

Client ID: APS-127-40.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-11 | Date Collected: | 11/23/10 16:28 |
| Client ID: | APS-127-40.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 113 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-12 | Date Collected: | 11/23/10 15:37 |
| Client ID: | APS-127-35.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 14:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-12 Date Collected: 11/23/10 15:37

Client ID: APS-127-35.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-12 | Date Collected: | 11/23/10 15:37 |
| Client ID: | APS-127-35.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-13 | Date Collected: | 11/23/10 15:21 |
| Client ID: | APS-124-75.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 14:56 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-13 Date Collected: 11/23/10 15:21

Client ID: APS-124-75.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-13 | Date Collected: | 11/23/10 15:21 |
| Client ID: | APS-124-75.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-14 | Date Collected: | 11/23/10 16:44 |
| Client ID: | APS-126-20.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/01/10 15:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

Lab ID: L1018848-14 Date Collected: 11/23/10 16:44

Client ID: APS-126-20.0-20101123-01 Date Received: 11/23/10

Sample Location: WAYLAND Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018848-14 | Date Collected: | 11/23/10 16:44 |
| Client ID: | APS-126-20.0-20101123-01 | Date Received: | 11/23/10 |
| Sample Location: | WAYLAND | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/01/10 08:29
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-14 Batch: WG445662-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/01/10 08:29
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-14 Batch: WG445662-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/01/10 08:29
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-14 Batch: WG445662-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | | ug/l | 10 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/01/10 07:40
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG445665-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/01/10 07:40
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG445665-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1018848

**Project Number:** 0114119 **Report Date:** 12/02/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/01/10 07:40
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG445665-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| D bromofluoromethane | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-14 Batch: WG445662-1 WG445662-2 | | | | | | | | |
| Methylene chloride | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 96 | | 99 | | 70-130 | 3 | | 20 |
| Chloroform | 97 | | 99 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 106 | | 106 | | 70-130 | 0 | | 20 |
| 1,2-Dichloropropane | 90 | | 93 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 93 | | 95 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 108 | | 111 | | 70-130 | 3 | | 20 |
| 1,2-Dichloroethane | 100 | | 105 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 102 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 108 | | 107 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Bromoform | 101 | | 106 | | 70-130 | 5 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 100 | | 70-130 | 7 | | 20 |
| Benzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| Toluene | 93 | | 95 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 100 | | 102 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-14 Batch: WG445662-1 WG445662-2 | | | | | | | | |
| Chloromethane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Bromomethane | 113 | | 107 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 95 | | 97 | | 70-130 | 2 | | 20 |
| Chloroethane | 97 | | 102 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethene | 102 | | 103 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Trichloroethene | 93 | | 97 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 92 | | 99 | | 70-130 | 7 | | 20 |
| 1,3-Dichlorobenzene | 93 | | 100 | | 70-130 | 7 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 98 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 96 | | 97 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 102 | | 104 | | 70-130 | 2 | | 20 |
| o-Xylene | 103 | | 103 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 95 | | 98 | | 70-130 | 3 | | 20 |
| Dibromomethane | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 96 | | 102 | | 70-130 | 6 | | 20 |
| Styrene | 101 | | 103 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 97 | | 97 | | 70-130 | 0 | | 20 |
| Acetone | 115 | | 119 | | 70-130 | 3 | | 20 |
| Carbon disulfide | 88 | | 86 | | 70-130 | 2 | | 20 |
| 2-Butanone | 114 | | 120 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-14 Batch: WG445662-1 WG445662-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 93 | | 99 | | 70-130 | 6 | | 20 |
| 2-Hexanone | 101 | | 101 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 95 | | 98 | | 70-130 | 3 | | 20 |
| Tetrahydrofuran | 110 | | 111 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 110 | | 109 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 95 | | 95 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 97 | | 98 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 97 | | 98 | | 70-130 | 1 | | 20 |
| Bromobenzene | 90 | | 99 | | 70-130 | 10 | | 20 |
| n-Butylbenzene | 95 | | 100 | | 70-130 | 5 | | 20 |
| sec-Butylbenzene | 96 | | 102 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 86 | | 91 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 96 | | 103 | | 70-130 | 7 | | 20 |
| 1,2-Dibromo-3-chloropropane | 99 | | 107 | | 70-130 | 8 | | 20 |
| Hexachlorobutadiene | 87 | | 89 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 100 | | 102 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 99 | | 106 | | 70-130 | 7 | | 20 |
| Naphthalene | 84 | | 89 | | 70-130 | 6 | | 20 |
| n-Propylbenzene | 99 | | 104 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 93 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-14 Batch: WG445662-1 WG445662-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 88 | | 94 | | 70-130 | 7 | | 20 |
| 1,3,5-Trimethylbenzene | 82 | | 86 | | 70-130 | 5 | | 20 |
| 1,2,4-Trimethylbenzene | 96 | | 102 | | 70-130 | 6 | | 20 |
| Ethyl ether | 106 | | 108 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 101 | | 102 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 99 | | 99 | | 70-130 | 0 | | 20 |
| Tertiary-Amyl Methyl Ether | 105 | | 108 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | **140** | Q | **138** | Q | 70-130 | 1 | | 20 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 128 | | 128 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 102 | | 70-130 |
| Toluene-d8 | 100 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 102 | | 70-130 |
| Dibromofluoromethane | 100 | | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG445665-1 WG445665-2 | | | | | | | | |
| Methylene chloride | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 99 | | 98 | | 70-130 | 1 | | 20 |
| Chloroform | 96 | | 100 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 98 | | 98 | | 70-130 | 0 | | 20 |
| 1,2-Dichloropropane | 91 | | 94 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 85 | | 94 | | 70-130 | 10 | | 20 |
| 1,1,2-Trichloroethane | 89 | | 99 | | 70-130 | 11 | | 20 |
| Tetrachloroethene | 93 | | 98 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 90 | | 93 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 121 | | 118 | | 70-130 | 3 | | 20 |
| 1,2-Dichloroethane | 99 | | 104 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 97 | | 98 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 95 | | 98 | | 70-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 86 | | 93 | | 70-130 | 8 | | 20 |
| cis-1,3-Dichloropropene | 88 | | 92 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 99 | | 101 | | 70-130 | 2 | | 20 |
| Bromoform | 91 | | 100 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 90 | | 101 | | 70-130 | 12 | | 20 |
| Benzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| Toluene | 93 | | 96 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 100 | | 104 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG445665-1 WG445665-2 | | | | | | | | |
| Chloromethane | 106 | | 105 | | 70-130 | 1 | | 20 |
| Bromomethane | 110 | | 108 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 108 | | 104 | | 70-130 | 4 | | 20 |
| Chloroethane | 105 | | 102 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 104 | | 103 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 93 | | 70-130 | 0 | | 20 |
| Trichloroethene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 99 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 84 | | 94 | | 70-130 | 11 | | 20 |
| p/m-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| o-Xylene | 103 | | 107 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Dibromomethane | 96 | | 102 | | 70-130 | 6 | | 20 |
| 1,2,3-Trichloropropane | 93 | | 103 | | 70-130 | 10 | | 20 |
| Styrene | 102 | | 107 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 107 | | 104 | | 70-130 | 3 | | 20 |
| Acetone | 102 | | 111 | | 70-130 | 8 | | 20 |
| Carbon disulfide | 89 | | 87 | | 70-130 | 2 | | 20 |
| 2-Butanone | 98 | | 111 | | 70-130 | 12 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1018848
**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG445665-1 WG445665-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 85 | | 100 | | 70-130 | 16 | | 20 |
| 2-Hexanone | 80 | | 98 | | 70-130 | 20 | | 20 |
| Bromochloromethane | 93 | | 98 | | 70-130 | 5 | | 20 |
| Tetrahydrofuran | 94 | | 106 | | 70-130 | 12 | | 20 |
| 2,2-Dichloropropane | 97 | | 96 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 86 | | 96 | | 70-130 | 11 | | 20 |
| 1,3-Dichloropropane | 90 | | 98 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 92 | | 96 | | 70-130 | 4 | | 20 |
| Bromobenzene | 97 | | 97 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 102 | | 104 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 98 | | 102 | | 70-130 | 4 | | 20 |
| o-Chlorotoluene | 92 | | 92 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 103 | | 103 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 86 | | 98 | | 70-130 | 13 | | 20 |
| Hexachlorobutadiene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 99 | | 103 | | 70-130 | 4 | | 20 |
| p-Isopropyltoluene | 104 | | 106 | | 70-130 | 2 | | 20 |
| Naphthalene | 79 | | 92 | | 70-130 | 15 | | 20 |
| n-Propylbenzene | 105 | | 107 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 95 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0114119

**Lab Number:** L1018848

**Report Date:** 12/02/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG445665-1 WG445665-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 98 | | 70-130 | 10 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 101 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 107 | | 106 | | 70-130 | 1 | | 20 |
| Ethyl ether | 93 | | 102 | | 70-130 | 9 | | 20 |
| Isopropyl Ether | 99 | | 104 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 92 | | 102 | | 70-130 | 10 | | 20 |
| Tertiary-Amyl Methyl Ether | 95 | | 106 | | 70-130 | 11 | | 20 |
| 1,4-Dioxane | 125 | | **143** | Q | 70-130 | 13 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 105 | | 70-130 |
| Toluene-d8 | 98 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018848-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018848-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1018848
**Report Date:** 12/02/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018848-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1018848 |
| **Project Number:** | 0114119 | **Report Date:** | 12/02/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1018848 |
| **Project Number:** | 0114119 | **Report Date:** | 12/02/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1018848 |
| **Project Number:** | 0114119 | **Report Date:** | 12/02/10 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 3 OF 4

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/23/10

ALPHA Job #: L1018848

**Client Information**

Client: ERM

Address: 34

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND

Project Location: WAYLAND

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/2/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 18848 1 | APS-124-46.4-20101123-01 | 11/23/10 | 1108 | GW | LJM | 2 | | |
| 2 | APS-124-51.5-20101123-01 | 11/23/10 | 1143 | | | | | |
| 3 | APS-125-56.5-20101123-01 | 11/23/10 | 1150 | | | | | |
| 4 | APS-124-56.6-20101123-01 | | 1217 | | | | | |
| 5 | APS-125-61.5-20101123-01 | | 1223 | | | | | |
| 6 | APS-124-61.5-20101123-01 | | 1256 | | | | | |
| 7 | APS-124-66.7-20101123-01 | | 1334 | | | | | |
| 8 | APS-125-69.7-20101123-01 | | 1308 | | | | | |
| 9 | APS-124-70.5-20101123-01 | | 1432 | | | | | |
| 10 | APS-127-20.0-20101123-01 | | 1458 | | | | | |

Container Type: VOA

Preservative: HCL

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/23/2010 1700 | [signature] | 11-23-10 17[illegible] |
| [signature] | 11-23-10 1800 | [signature] | 11/23/10 18[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:12021014:08

# CHAIN OF CUSTODY

PAGE 4 OF 4

Date Rec'd in Lab: 11/23/10

ALPHA Job #: L1018848

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/2/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | SAMPLE HANDLING (Filtration ☐ Done ☐ Not needed ☐ Lab to do; Preservation ☐ Lab to do (Please specify below)) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 18848 11 | APS-127-40.0-20101123-01 | 11/23/2010 | 1628 | GW | LSM | 2 | | | |
| 12 | APS-127-35.0-20101123-01 | | 1537 | | | | | | |
| 13 | APS-127-75.0-20101123-01 | | 1521 | | | | | | |
| 14 | APS-126-20.0-20101123-01 | | 1644 | | | | | | |

Container Type: VIAL
Preservative: HCL

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 11/23/2010 1700 | [illegible] | 11-23-10 17:00 |
| [illegible] | 11-22-10 | [illegible] | 11/23/10 18 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:12021014:08

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018848

Instrument ID: Jack.i  Calibration Date: 01-DEC-2010  Time: 06:52

Lab File ID: 1201A04  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .61274 | .59412 | .1 | 3 | 20 | |
| chloromethane | .75295 | .73977 | .1 | 2 | 20 | |
| vinyl chloride | .64793 | .61797 | .1 | 5 | 20 | |
| bromomethane | .30313 | .34325 | .1 | -13 | 20 | |
| chloroethane | 100 | 96.956 | .1 | 3 | 20 | |
| trichlorofluoromethane | .65249 | .70751 | .1 | -8 | 20 | |
| ethyl ether | .15724 | .16676 | .05 | -6 | 20 | |
| 1,1,-dichloroethene | .38996 | .39603 | .1 | -2 | 20 | |
| carbon disulfide | 1.0398 | .9182 | .05 | 12 | 20 | |
| freon-113 | .38864 | .49674 | .1 | -28 | 20 | F |
| methylene chloride | .64771 | .63751 | .05 | 2 | 20 | |
| acetone | 100 | 115 | .1 | -15 | 20 | |
| trans-1,2-dichloroethene | .66209 | .61014 | .1 | 8 | 20 | |
| methyl tert butyl ether | .93223 | .89831 | .1 | 4 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.1019 | 1.0863 | .05 | 1 | 20 | |
| Diisopropyl Ether | 1.4677 | 1.4815 | .05 | -1 | 20 | |
| 1,1-dichloroethane | 1.1648 | 1.1243 | .2 | 3 | 20 | |
| cis-1,2-dichloroethene | .69628 | .66386 | .1 | 5 | 20 | |
| 2,2-dichloropropane | .67519 | .74328 | .05 | -10 | 20 | |
| 2-butanone | .1097 | .12539 | .1 | -14 | 20 | |
| bromochloromethane | .28457 | .27097 | .05 | 5 | 20 | |
| chloroform | 1.0901 | 1.0538 | .2 | 3 | 20 | |
| carbontetrachloride | .67929 | .72394 | .1 | -7 | 20 | |
| tetrahydrofuran | .10507 | .11596 | .05 | -10 | 20 | |
| 1,1,1-trichloroethane | .8383 | .84325 | .1 | -1 | 20 | |
| 1,1-dichloropropene | .83584 | .81044 | .05 | 3 | 20 | |
| Tertiary-Amyl Methyl Ether | .8416 | .8845 | .05 | -5 | 20 | |
| benzene | 2.4877 | 2.4071 | .5 | 3 | 20 | |
| 1,2-dichloroethane | .62372 | .62069 | .1 | 0 | 20 | |
| trichloroethene | .60611 | .56414 | .2 | 7 | 20 | |
| dibromomethane | .28942 | .28295 | .05 | 2 | 20 | |
| 1,2-dichloropropane | .61145 | .54916 | .1 | 10 | 20 | |
| bromodichloromethane | .74826 | .72067 | .2 | 4 | 20 | |
| 1,4-dioxane | .00185 | .00259 | .05 | -41 | 20 | F |
| cis-1,3-dichloropropene | .74493 | .69678 | .2 | 6 | 20 | |
| toluene | 2.0165 | 1.8810 | .4 | 7 | 20 | |
| tetrachloroethene | .85833 | .80666 | .2 | 6 | 20 | |
| 4-methyl-2-pentanone | .09211 | .08531 | .1 | 7 | 20 | F |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018848

Instrument ID: Jack.i  Calibration Date: 01-DEC-2010  Time: 06:52

Lab File ID: 1201A04  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| trans-1,3-dichloropropene | .62596 | .67657 | .1 | -8 | 20 |
| 1,1,2-trichloroethane | .41174 | .38451 | .1 | 7 | 20 |
| chlorodibromomethane | .5237 | .49272 | .1 | 6 | 20 |
| 1,3-dichloropropane | .86161 | .83337 | .05 | 3 | 20 |
| 1,2-dibromoethane | .45829 | .43538 | .1 | 5 | 20 |
| 2-hexanone | .19053 | .1926 | .1 | -1 | 20 |
| chlorobenzene | 2.1543 | 1.9785 | .5 | 8 | 20 |
| ethyl benzene | 3.7465 | 3.7510 | .1 | 0 | 20 |
| 1,1,1,2-tetrachloroethane | .57339 | .55579 | .05 | 3 | 20 |
| p/m xylene | 1.4383 | 1.4661 | .1 | -2 | 20 |
| o xylene | 1.3632 | 1.3997 | .3 | -3 | 20 |
| styrene | 2.2452 | 2.2642 | .3 | -1 | 20 |
| bromoform | .47754 | .48362 | .1 | -1 | 20 |
| isopropylbenzene | 3.5840 | 3.5866 | .1 | 0 | 20 |
| bromobenzene | 1.5869 | 1.4362 | .05 | 9 | 20 |
| n-propylbenzene | 7.5117 | 7.4460 | .05 | 1 | 20 |
| 1,1,2,2,-tetrachloroethane | .98109 | .91551 | .3 | 7 | 20 |
| 2-chlorotoluene | 5.0111 | 4.2924 | .05 | 14 | 20 |
| 1,2,3-trichloropropane | .78023 | .74842 | .05 | 4 | 20 |
| 1,3,5-trimethybenzene | 5.7825 | 4.7141 | .05 | 18 | 20 |
| 4-chorotoluene | 4.6273 | 4.4182 | .05 | 5 | 20 |
| tert-butylbenzene | 4.4081 | 4.1678 | .05 | 5 | 20 |
| 1,2,4-trimethylbenzene | 5.0985 | 4.8780 | .05 | 4 | 20 |
| sec-butylbenzene | 6.3141 | 6.0405 | .05 | 4 | 20 |
| p-isopropyltoluene | 4.9959 | 4.9257 | .05 | 1 | 20 |
| 1,3-dichlorobenzene | 3.0219 | 2.8183 | .6 | 7 | 20 |
| 1,4-dichlorobenzene | 3.0831 | 2.9058 | .5 | 6 | 20 |
| n-butylbenzene | 4.3730 | 4.1611 | .05 | 5 | 20 |
| 1,2-dichlorobenzene | 2.7409 | 2.5229 | .4 | 8 | 20 |
| 1,2-dibromo-3-chloropropane | .12789 | .12691 | .05 | 1 | 20 |
| hexachlorobutadiene | .73224 | .63421 | .05 | 13 | 20 |
| 1,2,4-trichlorobenzene | 1.7005 | 1.4909 | .2 | 12 | 20 |
| naphthalene | 2.9306 | 2.4660 | .05 | 16 | 20 |
| 1,2,3-trichlorobenzene | 1.3936 | 1.2288 | .05 | 12 | 20 |
| dibromofluoromethane | .26329 | .26253 | .05 | 0 | 20 |
| 1,2-dichloroethane-d4 | .25342 | .2585 | .05 | -2 | 20 |
| toluene-d8 | 1.2667 | 1.2712 | .05 | 0 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018848

Instrument ID: Jack.i  Calibration Date: 01-DEC-2010  Time: 06:52

Lab File ID: 1201A04  Init. Calib. Date(s): 21-NOV-2  21-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 07:20  12:43

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 4-bromofluorobenzene | .8428 | .8558 | .05 | -2 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018848

Instrument ID: Jack.i  Calibration Date: 01-DEC-2010  Time: 06:03

Lab File ID: 1201A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260ccal  Init. Calib. Times : 06:25  10:11

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .59257 | .63462 | .1 | -7 | 20 | |
| chloromethane | .79246 | .84071 | .1 | -6 | 20 | |
| vinyl chloride | .65451 | .70508 | .1 | -8 | 20 | |
| bromomethane | .2802 | .30863 | .1 | -10 | 20 | |
| chloroethane | .26586 | .27997 | .1 | -5 | 20 | |
| trichlorofluoromethane | .64039 | .77265 | .1 | -21 | 20 | F |
| ethyl ether | .17865 | .16637 | .05 | 7 | 20 | |
| 1,1,-dichloroethene | .38963 | .40746 | .1 | -5 | 20 | |
| carbon disulfide | 1.0639 | .95156 | .1 | 11 | 20 | |
| methylene chloride | .64676 | .63284 | .1 | 2 | 20 | |
| acetone | .08018 | .08151 | .1 | -2 | 20 | F |
| trans-1,2-dichloroethene | .65648 | .61346 | .1 | 7 | 20 | |
| methyl tert butyl ether | 1.1716 | .98157 | .1 | 16 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.4236 | 1.3138 | .05 | 8 | 20 | |
| Diisopropyl Ether | 1.8059 | 1.7913 | .01 | 1 | 20 | |
| 1,1-dichloroethane | 1.1604 | 1.1436 | .2 | 1 | 20 | |
| cis-1,2-dichloroethene | .68626 | .67134 | .1 | 2 | 20 | |
| 2,2-dichloropropane | .81224 | .787 | .05 | 3 | 20 | |
| bromochloromethane | .27984 | .26044 | .05 | 7 | 20 | |
| chloroform | 1.0788 | 1.0368 | .2 | 4 | 20 | |
| carbontetrachloride | .78379 | .76997 | .1 | 2 | 20 | |
| tetrahydrofuran | .114 | .10701 | .05 | 6 | 20 | |
| 1,1,1-trichloroethane | .92031 | .88972 | .1 | 3 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.0980 | 1.0473 | .05 | 5 | 20 | |
| 1,1-dichloropropene | .92761 | .92016 | .05 | 1 | 20 | |
| 2-butanone | .13125 | .12845 | .1 | 2 | 20 | |
| benzene | 2.7435 | 2.6931 | .5 | 2 | 20 | |
| 1,2-dichloroethane | .62502 | .62029 | .1 | 1 | 20 | |
| trichloroethene | .69092 | .66255 | .2 | 4 | 20 | |
| dibromomethane | .28051 | .26905 | .05 | 4 | 20 | |
| 1,2-dichloropropane | .67196 | .61393 | .1 | 9 | 20 | |
| bromodichloromethane | .78928 | .74648 | .2 | 5 | 20 | |
| 1,4-dioxane | .00214 | .00269 | .05 | -25 | 20 | F |
| cis-1,3-dichloropropene | .89499 | .78477 | .2 | 12 | 20 | |
| toluene | 2.2810 | 2.1233 | .4 | 7 | 20 | |
| tetrachloroethene | .97535 | .91044 | .2 | 7 | 20 | |
| 4-methyl-2-pentanone | .11804 | .10005 | .1 | 15 | 20 | |
| trans-1,3-dichloropropene | .88607 | .76437 | .1 | 14 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018848

Instrument ID: Jack.i  Calibration Date: 01-DEC-2010  Time: 06:03

Lab File ID: 1201A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260ccal  Init. Calib. Times : 06:25  10:11

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .48068 | .42883 | .1 | 11 | 20 | |
| chlorodibromomethane | .6257 | .53199 | .1 | 15 | 20 | |
| 1,3-dichloropropane | 1.0091 | .91283 | .05 | 10 | 20 | |
| 1,2-dibromoethane | .52613 | .45402 | .1 | 14 | 20 | |
| 2-hexanone | .24914 | .19947 | .1 | 20 | 20 | |
| chlorobenzene | 2.4044 | 2.1665 | .5 | 10 | 20 | |
| ethyl benzene | 4.1069 | 4.0973 | .1 | 0 | 20 | |
| 1,1,1,2-tetrachloroethane | .73548 | .67849 | .05 | 8 | 20 | |
| p/m xylene | 1.5647 | 1.5688 | .1 | 0 | 20 | |
| o xylene | 1.4772 | 1.5178 | .3 | -3 | 20 | |
| styrene | 2.4064 | 2.4538 | .3 | -2 | 20 | |
| bromoform | .61483 | .56174 | .1 | 9 | 20 | |
| isopropylbenzene | 3.8613 | 3.8149 | .1 | 1 | 20 | |
| bromobenzene | 1.7919 | 1.7308 | .05 | 3 | 20 | |
| n-propylbenzene | 8.2501 | 8.6777 | .05 | -5 | 20 | |
| 1,1,2,2,-tetrachloroethane | 1.1598 | 1.0478 | .3 | 10 | 20 | |
| 2-chlorotoluene | 5.6467 | 5.1837 | .05 | 8 | 20 | |
| 1,2,3-trichloropropane | .90634 | .83944 | .05 | 7 | 20 | |
| 1,3,5-trimethybenzene | 5.7107 | 5.7063 | .05 | 0 | 20 | |
| 4-chorotoluene | 5.2359 | 5.3876 | .05 | -3 | 20 | |
| tert-butylbenzene | 4.8401 | 4.7403 | .05 | 2 | 20 | |
| 1,2,4-trimethylbenzene | 5.6215 | 6.0109 | .05 | -7 | 20 | |
| sec-butylbenzene | 6.6993 | 6.8733 | .01 | -3 | 20 | |
| p-isopropyltoluene | 5.3807 | 5.6043 | .05 | -4 | 20 | |
| 1,3-dichlorobenzene | 3.3043 | 3.2670 | .6 | 1 | 20 | |
| 1,4-dichlorobenzene | 3.3536 | 3.2739 | .5 | 2 | 20 | |
| n-butylbenzene | 4.5010 | 4.6036 | .05 | -2 | 20 | |
| 1,2-dichlorobenzene | 2.9728 | 2.8139 | .4 | 5 | 20 | |
| 1,2-dibromo-3-chloropropane | .14496 | .12433 | .05 | 14 | 20 | |
| hexachlorobutadiene | .70963 | .67596 | .05 | 5 | 20 | |
| 1,2,4-trichlorobenzene | 1.6854 | 1.5051 | .2 | 11 | 20 | |
| naphthalene | 2.9808 | 2.3532 | .05 | 21 | 20 | F |
| 1,2,3-trichlorobenzene | 1.4212 | 1.2053 | .05 | 15 | 20 | |
| dibromofluoromethane | .22675 | .23034 | .05 | -2 | 20 | |
| 1,2-dichloroethane-d4 | .21878 | .22181 | .05 | -1 | 20 | |
| toluene-d8 | 1.3004 | 1.2706 | .01 | 2 | 20 | |
| 4-bromofluorobenzene | .88474 | .89833 | .05 | -2 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1018929 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON |
| Project Number: | 0114119 |
| Report Date: | 12/03/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1018929-01 | APS-127-44.7-20101123-01 | WAYLAND, MA | 11/23/10 17:44 |
| L1018929-02 | APS-126-30.0-20101123-01 | WAYLAND, MA | 11/23/10 17:29 |
| L1018929-03 | APS-126-35.0-20101124-01 | WAYLAND, MA | 11/24/10 07:45 |
| L1018929-04 | APS-127-50.0-20101124-01 | WAYLAND, MA | 11/24/10 07:58 |
| L1018929-05 | APS-126-40.0-20101124-01 | WAYLAND, MA | 11/24/10 08:21 |
| L1018929-06 | APS-127-55.0-20101124-01 | WAYLAND, MA | 11/24/10 08:36 |
| L1018929-07 | APS-126-45.0-20101124-01 | WAYLAND, MA | 11/24/10 09:06 |
| L1018929-08 | APS-127-60.0-20101124-01 | WAYLAND, MA | 11/24/10 09:37 |
| L1018929-09 | APS-126-49.0-20101124-01 | WAYLAND, MA | 11/24/10 09:52 |
| L1018929-10 | APS-127-65.0-20101124-01 | WAYLAND, MA | 11/24/10 10:19 |
| L1018929-11 | APS-126-54.0-20101124-01 | WAYLAND, MA | 11/24/10 10:45 |
| L1018929-12 | APS-126-60.0-20101124-01 | WAYLAND, MA | 11/24/10 11:22 |
| L1018929-13 | APS-127-70.0-20101124-01 | WAYLAND, MA | 11/24/10 11:06 |
| L1018929-14 | APS-126-66.9-20101124-01 | WAYLAND, MA | 11/24/10 12:23 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON **Lab Number:** L1018929
**Project Number:** 0114119 **Report Date:** 12/03/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1018929-01 through -14, did not meet the method required minimum response factors for Acetone, 2-Butanone, 4-Methyl-2-pentanone, Tetrahydrofuran, 2-Hexanone, 1,2-Dibromo-3-chloropropane, and 1,4-Dioxane; and utilized a quadratic fit for trans-1,3-Dichloropropene, Bromoform, and Naphthalene.

The continuing calibration standard, associated with L1018929-01 through -14, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 12/03/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-01 | Date Collected: | 11/23/10 17:44 |
| Client ID: | APS-127-44.7-20101123-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 07:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-01 Date Collected: 11/23/10 17:44

Client ID: APS-127-44.7-20101123-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-01 | Date Collected: | 11/23/10 17:44 |
| Client ID: | APS-127-44.7-20101123-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-02 | Date Collected: | 11/23/10 17:29 |
| Client ID: | APS-126-30.0-20101123-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 08:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-02 Date Collected: 11/23/10 17:29

Client ID: APS-126-30.0-20101123-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-02 | Date Collected: | 11/23/10 17:29 |
| Client ID: | APS-126-30.0-20101123-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-03 | Date Collected: | 11/24/10 07:45 |
| Client ID: | APS-126-35.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 08:55 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-03 Date Collected: 11/24/10 07:45

Client ID: APS-126-35.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-03 | Date Collected: | 11/24/10 07:45 |
| Client ID: | APS-126-35.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-04 | Date Collected: | 11/24/10 07:58 |
| Client ID: | APS-127-50.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 09:26 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 14 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-04 Date Collected: 11/24/10 07:58

Client ID: APS-127-50.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-04 | Date Collected: | 11/24/10 07:58 |
| Client ID: | APS-127-50.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-05 | Date Collected: | 11/24/10 08:21 |
| Client ID: | APS-126-40.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 09:58 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-05 Date Collected: 11/24/10 08:21

Client ID: APS-126-40.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-05 | Date Collected: | 11/24/10 08:21 |
| Client ID: | APS-126-40.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-06 | Date Collected: | 11/24/10 08:36 |
| Client ID: | APS-127-55.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 10:30 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 59 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-06 Date Collected: 11/24/10 08:36

Client ID: APS-127-55.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.8 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-06 | Date Collected: | 11/24/10 08:36 |
| Client ID: | APS-127-55.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-07 | Date Collected: | 11/24/10 09:06 |
| Client ID: | APS-126-45.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 11:01 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-07 Date Collected: 11/24/10 09:06

Client ID: APS-126-45.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-07 | Date Collected: | 11/24/10 09:06 |
| Client ID: | APS-126-45.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-08 | Date Collected: | 11/24/10 09:37 |
| Client ID: | APS-127-60.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 11:32 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 80 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-08 Date Collected: 11/24/10 09:37

Client ID: APS-127-60.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 7.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-08 | Date Collected: | 11/24/10 09:37 |
| Client ID: | APS-127-60.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-09 | Date Collected: | 11/24/10 09:52 |
| Client ID: | APS-126-49.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 12:04 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-09 Date Collected: 11/24/10 09:52

Client ID: APS-126-49.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-09 | Date Collected: | 11/24/10 09:52 |
| Client ID: | APS-126-49.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-10 | Date Collected: | 11/24/10 10:19 |
| Client ID: | APS-127-65.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 12:35 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 34 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-10 Date Collected: 11/24/10 10:19

Client ID: APS-127-65.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-10 | Date Collected: | 11/24/10 10:19 |
| Client ID: | APS-127-65.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-11 | Date Collected: | 11/24/10 10:45 |
| Client ID: | APS-126-54.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 13:07 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-11 Date Collected: 11/24/10 10:45

Client ID: APS-126-54.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-11 | Date Collected: | 11/24/10 10:45 |
| Client ID: | APS-126-54.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-12 | Date Collected: | 11/24/10 11:22 |
| Client ID: | APS-126-60.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 13:38 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 3.2 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 6.2 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 80 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-12 Date Collected: 11/24/10 11:22

Client ID: APS-126-60.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 43 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-12 | Date Collected: | 11/24/10 11:22 |
| Client ID: | APS-126-60.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 11 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-13 | Date Collected: | 11/24/10 11:06 |
| Client ID: | APS-127-70.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 14:10 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 45 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-13 Date Collected: 11/24/10 11:06

Client ID: APS-127-70.0-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 10 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-13 | Date Collected: | 11/24/10 11:06 |
| Client ID: | APS-127-70.0-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-14 | Date Collected: | 11/24/10 12:23 |
| Client ID: | APS-126-66.9-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/02/10 14:41 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 3.0 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 6.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 85 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

Lab ID: L1018929-14 Date Collected: 11/24/10 12:23

Client ID: APS-126-66.9-20101124-01 Date Received: 11/24/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 41 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1018929-14 | Date Collected: | 11/24/10 12:23 |
| Client ID: | APS-126-66.9-20101124-01 | Date Received: | 11/24/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | 11 | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/02/10 06:49
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-14 Batch: WG446030-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/02/10 06:49
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-14 Batch: WG446030-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON **Lab Number:** L1018929

**Project Number:** 0114119 **Report Date:** 12/03/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/02/10 06:49
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-14 Batch: WG446030-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| D bromofluoromethane | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-14 Batch: WG446030-1 WG446030-2 | | | | | | | | |
| Methylene chloride | 94 | | 102 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethane | 92 | | 98 | | 70-130 | 6 | | 20 |
| Chloroform | 94 | | 97 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 81 | | 91 | | 70-130 | 12 | | 20 |
| 1,2-Dichloropropane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 89 | | 95 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 103 | | 99 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 101 | | 101 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 94 | | 102 | | 70-130 | 8 | | 20 |
| 1,2-Dichloroethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 87 | | 94 | | 70-130 | 8 | | 20 |
| Bromodichloromethane | 87 | | 96 | | 70-130 | 10 | | 20 |
| trans-1,3-Dichloropropene | 89 | | 93 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 83 | | 88 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 93 | | 97 | | 70-130 | 4 | | 20 |
| Bromoform | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 100 | | 70-130 | 1 | | 20 |
| Benzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Toluene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 101 | | 102 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-14 Batch: WG446030-1 WG446030-2 | | | | | | | | |
| Chloromethane | 95 | | 97 | | 70-130 | 2 | | 20 |
| Bromomethane | 83 | | 88 | | 70-130 | 6 | | 20 |
| Vinyl chloride | 89 | | 95 | | 70-130 | 7 | | 20 |
| Chloroethane | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 91 | | 97 | | 70-130 | 6 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Trichloroethene | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 104 | | 103 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 102 | | 101 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 104 | | 102 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 86 | | 87 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 103 | | 102 | | 70-130 | 1 | | 20 |
| o-Xylene | 100 | | 101 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 101 | | 70-130 | 4 | | 20 |
| Dibromomethane | 102 | | 105 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 98 | | 96 | | 70-130 | 2 | | 20 |
| Styrene | 99 | | 99 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 96 | | 94 | | 70-130 | 2 | | 20 |
| Acetone | 106 | | 102 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 72 | | 79 | | 70-130 | 9 | | 20 |
| 2-Butanone | 95 | | 90 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-14 Batch: WG446030-1 WG446030-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 83 | | 89 | | 70-130 | 7 | | 20 |
| 2-Hexanone | 85 | | 89 | | 70-130 | 5 | | 20 |
| Bromochloromethane | 95 | | 101 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | 81 | | 79 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 84 | | 90 | | 70-130 | 7 | | 20 |
| 1,2-Dibromoethane | 97 | | 99 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 101 | | 99 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 92 | | 97 | | 70-130 | 5 | | 20 |
| Bromobenzene | 102 | | 101 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 93 | | 91 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 107 | | 105 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 104 | | 102 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 102 | | 100 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 102 | | 100 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 83 | | 86 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 110 | | 104 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 113 | | 109 | | 70-130 | 4 | | 20 |
| Naphthalene | 91 | | 89 | | 70-130 | 2 | | 20 |
| n-Propylbenzene | 104 | | 103 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 101 | | 98 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-14 Batch: WG446030-1 WG446030-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 108 | | 106 | | 70-130 | 2 | | 20 |
| Ethyl ether | 92 | | 93 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 96 | | 99 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 87 | | 92 | | 70-130 | 6 | | 20 |
| Tertiary-Amyl Methyl Ether | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 119 | | 107 | | 70-130 | 11 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 103 | | 70-130 |
| Toluene-d8 | 103 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 98 | | 70-130 |
| Dibromofluoromethane | 99 | | 102 | | 70-130 |

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018929-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1018929-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON
**Project Number:** 0114119

**Lab Number:** L1018929
**Report Date:** 12/03/10

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1018929-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018929 |
| **Project Number:** | 0114119 | **Report Date:** | 12/03/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON | **Lab Number:** | L1018929 |
| **Project Number:** | 0114119 | **Report Date:** | 12/03/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON **Lab Number:** L1018929
**Project Number:** 0114119 **Report Date:** 12/03/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 11/24/10

ALPHA Job #: L1018929

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St, Boston MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/3/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| S929.1 | APS-127-44.7-20101123-01 | 11/23/10 | 1744 | GW | LSM | 2 | | |
| 2 | APS-126-30.0-20101123-01 | 11/23/10 | 1729 | | | | | |
| 3 | APS-126-35.0-20101124-01 | 11/24/10 | 0745 | | | | | |
| 4 | APS-127-50.0-20101124-01 | 11/24/10 | 0758 | | | | | |
| 5 | APS-126-40.0-20101124-01 | 11/24/10 | 0821 | | | | | |
| 6 | APS-127-55.0-20101124-01 | 11/24/10 | 0836 | | | | | |
| 7 | APS-126-45.0-20101124-01 | 11/24/10 | 0906 | | | | | |
| 8 | APS-127-60.0-20101124-01 | 11/24/10 | 0931 | | | | | |
| 9 | APS-126-49.0-20101124-01 | 11/24/10 | 0952 | | | | | |
| 10 | APS-127-65.0-20101124-01 | 11/24/10 | 1019 | | | | | |

**SAMPLE HANDLING**
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type: VIAL
Preservative: HCL

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/24/10 1305 | [signature] | 11/24/10 13:15 |
| [signature] | 11/24/10 14:07 | [signature] | 11/24/10 14:07 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:12031011 1:07:01 N

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/24/10

ALPHA Job #: L10 8929

**Client Information**

Client: ERM

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON-WAYLAND

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/3/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

**SAMPLE HANDLING**

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 8929.11 | APS-126-54.0-20101124-01 | 11/24/10 | 1045 | GW | LJM | 2 | | |
| 12 | APS-126-60.0-20101124-01 | 11/24/10 | 1122 | | | | | |
| 13 | APS-127-70.0-20101124-01 | 11/24/10 | 1106 | | | | | |
| 14 | APS-126-66.9-20101124-01 | 11/24/10 | 1223 | | | | | |

| | |
|---|---|
| Container Type | VIAI |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 11/24/10 1315 | | 11/24/10 1315 |
| | 11/24/10 1407 | | 11/24/10 1407 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial No: 120310101011

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018929

Instrument ID: Quimby.i  Calibration Date: 02-DEC-2010  Time: 05:46

Lab File ID: 1202A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .32145 | .1 | 4 | 20 | |
| chloromethane | .4498 | .4276 | .1 | 5 | 20 | |
| vinyl chloride | .32842 | .29244 | .1 | 11 | 20 | |
| bromomethane | .2618 | .21721 | .1 | 17 | 20 | |
| chloroethane | .26039 | .24871 | .1 | 4 | 20 | |
| trichlorofluoromethane | .53057 | .49707 | .1 | 6 | 20 | |
| ethyl ether | .11539 | .10633 | .05 | 8 | 20 | |
| acetone | .04052 | .04311 | .1 | -6 | 20 | F |
| 1,1,-dichloroethene | .28629 | .26109 | .1 | 9 | 20 | |
| methylene chloride | .30757 | .29076 | .1 | 5 | 20 | |
| carbon disulfide | .78949 | .57277 | .1 | 27 | 20 | F |
| methyl tert butyl ether | .38634 | .33164 | .1 | 14 | 20 | |
| trans-1,2-dichloroethene | .32749 | .30851 | .1 | 6 | 20 | |
| Diisopropyl Ether | .8809 | .84225 | .05 | 4 | 20 | |
| 1,1-dichloroethane | .59499 | .55058 | .2 | 7 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .48249 | .05 | 13 | 20 | |
| 2-butanone | .05397 | .05103 | .1 | 5 | 20 | F |
| 2,2-dichloropropane | .3505 | .29533 | .05 | 16 | 20 | |
| cis-1,2-dichloroethene | .35294 | .34244 | .1 | 3 | 20 | |
| chloroform | .55513 | .52069 | .2 | 6 | 20 | |
| bromochloromethane | .13022 | .12413 | .05 | 5 | 20 | |
| tetrahydrofuran | .03742 | .03042 | .05 | 19 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .39108 | .1 | 13 | 20 | |
| 1,1-dichloropropene | .44371 | .41334 | .05 | 7 | 20 | |
| carbontetrachloride | .3695 | .29798 | .1 | 19 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .34346 | .05 | 4 | 20 | |
| 1,2-dichloroethane | .32236 | .31105 | .1 | 4 | 20 | |
| benzene | 1.3755 | 1.3188 | .5 | 4 | 20 | |
| trichloroethene | .35538 | .31861 | .2 | 10 | 20 | |
| 1,2-dichloropropane | .29749 | .29081 | .1 | 2 | 20 | |
| bromodichloromethane | .31579 | .27547 | .2 | 13 | 20 | |
| 1,4-dioxane | .00101 | .0012 | .05 | -19 | 20 | F |
| dibromomethane | .1201 | .12312 | .05 | -3 | 20 | |
| 4-methyl-2-pentanone | .04053 | .03357 | .1 | 17 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .28957 | .2 | 17 | 20 | |
| toluene | 1.1592 | 1.0844 | .4 | 6 | 20 | |
| trans-1,3-dichloropropene | 100 | 89.122 | .1 | 11 | 20 | |
| 1,1,2-trichloroethane | .18721 | .19212 | .1 | -3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1018929

Instrument ID: Quimby.i  Calibration Date: 02-DEC-2010  Time: 05:46

Lab File ID: 1202A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .09719 | .08296 | .1 | 15 | 20 | F |
| 1,3-dichloropropane | .40365 | .40787 | .05 | -1 | 20 | |
| tetrachloroethene | .52863 | .53566 | .2 | -1 | 20 | |
| chlorodibromomethane | .23194 | .20545 | .1 | 11 | 20 | |
| 1,2-dibromoethane | .20222 | .19697 | .1 | 3 | 20 | |
| chlorobenzene | 1.2741 | 1.2122 | .5 | 5 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .30819 | .05 | 7 | 20 | |
| ethyl benzene | 2.2828 | 2.3019 | .1 | -1 | 20 | |
| p/m xylene | .92639 | .9514 | .1 | -3 | 20 | |
| o xylene | .88623 | .88406 | .3 | 0 | 20 | |
| styrene | 1.3904 | 1.3804 | .31 | 1 | 20 | |
| isopropylbenzene | 2.4070 | 2.3821 | .1 | 1 | 20 | |
| bromoform | 100 | 91.577 | .1 | 8 | 20 | |
| 1,1,2,2,-tetrachloroethane | .39202 | .39602 | .3 | -1 | 20 | |
| 1,2,3-trichloropropane | .3082 | .30303 | .05 | 2 | 20 | |
| n-propylbenzene | 4.4117 | 4.5967 | .05 | -4 | 20 | |
| bromobenzene | .84912 | .86189 | .05 | -2 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 3.0941 | .05 | 0 | 20 | |
| 2-chlorotoluene | 2.9635 | 3.0378 | .05 | -3 | 20 | |
| 4-chorotoluene | 2.6913 | 2.7476 | .05 | -2 | 20 | |
| tert-butylbenzene | 2.6420 | 2.7473 | .05 | -4 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 3.3313 | .05 | -8 | 20 | |
| sec-butylbenzene | 3.8323 | 4.0890 | .05 | -7 | 20 | |
| p-isopropyltoluene | 3.0348 | 3.4426 | .05 | -13 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.7926 | .6 | -2 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.7772 | .5 | -4 | 20 | |
| n-butylbenzene | 3.0901 | 2.8750 | .05 | 7 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.5291 | .4 | -4 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03528 | .05 | 17 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .68323 | .2 | 2 | 20 | |
| hexachlorobutadiene | .38351 | .42002 | .05 | -10 | 20 | |
| naphthalene | 100 | 90.634 | .05 | 9 | 20 | |
| 1,2,3-trichlorobenzene | .52089 | .52464 | .05 | -1 | 20 | |
| dibromofluoromethane | .22479 | .22195 | .05 | 1 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .20092 | .05 | 1 | 20 | |
| toluene-d8 | 1.2342 | 1.2676 | .05 | -3 | 20 | |
| 4-bromofluorobenzene | .76826 | .75417 | .05 | 2 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1019301 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/06/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1019301-01 | RETURN WATER | WAYLAND, MA | 12/03/10 15:10 |
| L1019301-02 | APS IDW | WAYLAND, MA | 12/03/10 13:00 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301
**Project Number:** 0114119 **Report Date:** 12/06/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1019301-01 and -02, utilized a quadratic fit for trans-1,3-Dichloropropene, Bromoform and Naphthalene.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/06/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-01 | Date Collected: | 12/03/10 15:10 |
| Client ID: | RETURN WATER | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/06/10 12:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-01 | Date Collected: | 12/03/10 15:10 |
| Client ID: | RETURN WATER | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-02 | Date Collected: | 12/03/10 13:00 |
| Client ID: | APS IDW | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/06/10 13:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-02 | Date Collected: | 12/03/10 13:00 |
| Client ID: | APS IDW | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/06/10 09:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG446381-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/06/10 09:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG446381-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/06/10 09:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG446381-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 103 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| Methylene chloride | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 86 | | 88 | | 70-130 | 2 | | 20 |
| Chloroform | 90 | | 89 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 84 | | 88 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 89 | | 90 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 91 | | 95 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 86 | | 87 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 90 | | 90 | | 70-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 91 | | 94 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Bromoform | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 94 | | 70-130 | 1 | | 20 |
| Benzene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Toluene | 86 | | 88 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 92 | | 96 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| Chloromethane | 88 | | 86 | | 70-130 | 2 | | 20 |
| Bromomethane | **55** | Q | **64** | Q | 70-130 | 15 | | 20 |
| Vinyl chloride | 86 | | 85 | | 70-130 | 1 | | 20 |
| Chloroethane | 87 | | 86 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 88 | | 87 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 85 | | 86 | | 70-130 | 1 | | 20 |
| Trichloroethene | 83 | | 85 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 90 | | 88 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 94 | | 96 | | 70-130 | 2 | | 20 |
| o-Xylene | 94 | | 97 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 91 | | 91 | | 70-130 | 0 | | 20 |
| Dibromomethane | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 92 | | 89 | | 70-130 | 3 | | 20 |
| Styrene | 98 | | 99 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 89 | | 85 | | 70-130 | 5 | | 20 |
| Acetone | 105 | | 103 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 72 | | 70 | | 70-130 | 3 | | 20 |
| 2-Butanone | 95 | | 92 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 81 | | 83 | | 70-130 | 2 | | 20 |
| 2-Hexanone | 89 | | 91 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 93 | | 93 | | 70-130 | 0 | | 20 |
| Tetrahydrofuran | 82 | | 88 | | 70-130 | 7 | | 20 |
| 2,2-Dichloropropane | 88 | | 87 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 92 | | 95 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 93 | | 95 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 92 | | 96 | | 70-130 | 4 | | 20 |
| Bromobenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 85 | | 83 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 95 | | 94 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 83 | | 86 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 89 | | 91 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Naphthalene | 80 | | 81 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 84 | | 84 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 87 | | 87 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 89 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 99 | | 97 | | 70-130 | 2 | | 20 |
| Ethyl ether | 94 | | 91 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 96 | | 96 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 94 | | 92 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 100 | | 94 | | 70-130 | 6 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 102 | | 70-130 |
| Toluene-d8 | 102 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 100 | | 70-130 |
| Dibromofluoromethane | 102 | | 101 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1019301-01A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-01B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-01C | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-02A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-02B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019301 |
| **Project Number:** | 0114119 | **Report Date:** | 12/06/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019301 |
| **Project Number:** | 0114119 | **Report Date:** | 12/06/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301
**Project Number:** 0114119 **Report Date:** 12/06/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/3/10

ALPHA Job #: L101 9301

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St. 6th Floor
Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: Jason.Flattery@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0114119
Project Manager: Jason Flattery
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 24 Hour Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State /Fed Program | Criteria |
|---|---|
| MA MCP | MCP GW-1 |

Other Project Specific Requirements/Comments/Detection Limits:

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: 8021 List by 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 9301. 1 | ~~B1~~ B2 Return Water | 12/3/10 | 15:10 | GW | JA | X | | 3 |
| .2 | APS IDW | 12/3/10 | 13:00 | GW | JA | X | | 2 |

SAMPLE HANDLING
Filtration ☐ Done ☒ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | V | | | | | | | | | | | | | | | | |
| Preservative | B | | | | | | | | | | | | | | | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 12/3/10 17:12 | | 12-3-10 1712 |
| | 12/3/10 18:30 | | 12-3-10 18:30 |
| | 12/3/10 19:10 | | 12/3/10 1910 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

Serial_No:12061014:37

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1019301 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/06/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1019301-01 | RETURN WATER | WAYLAND, MA | 12/03/10 15:10 |
| L1019301-02 | APS IDW | WAYLAND, MA | 12/03/10 13:00 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301
**Project Number:** 0114119 **Report Date:** 12/06/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1019301-01 and -02, utilized a quadratic fit for trans-1,3-Dichloropropene, Bromoform and Naphthalene.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/06/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-01 | Date Collected: | 12/03/10 15:10 |
| Client ID: | RETURN WATER | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/06/10 12:52 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-01 | Date Collected: | 12/03/10 15:10 |
| Client ID: | RETURN WATER | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-02 | Date Collected: | 12/03/10 13:00 |
| Client ID: | APS IDW | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/06/10 13:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019301-02 | Date Collected: | 12/03/10 13:00 |
| Client ID: | APS IDW | Date Received: | 12/03/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/06/10 09:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG446381-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/06/10 09:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG446381-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301

**Project Number:** 0114119 **Report Date:** 12/06/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/06/10 09:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG446381-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| D bromofluoromethane | 103 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| Methylene chloride | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 86 | | 88 | | 70-130 | 2 | | 20 |
| Chloroform | 90 | | 89 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 84 | | 88 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 89 | | 90 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 91 | | 95 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 86 | | 87 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 90 | | 90 | | 70-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 91 | | 94 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Bromoform | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 94 | | 70-130 | 1 | | 20 |
| Benzene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Toluene | 86 | | 88 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 92 | | 96 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| Chloromethane | 88 | | 86 | | 70-130 | 2 | | 20 |
| Bromomethane | **55** | Q | **64** | Q | 70-130 | 15 | | 20 |
| Vinyl chloride | 86 | | 85 | | 70-130 | 1 | | 20 |
| Chloroethane | 87 | | 86 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 88 | | 87 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 85 | | 86 | | 70-130 | 1 | | 20 |
| Trichloroethene | 83 | | 85 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 90 | | 88 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 94 | | 96 | | 70-130 | 2 | | 20 |
| o-Xylene | 94 | | 97 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 91 | | 91 | | 70-130 | 0 | | 20 |
| Dibromomethane | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 92 | | 89 | | 70-130 | 3 | | 20 |
| Styrene | 98 | | 99 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 89 | | 85 | | 70-130 | 5 | | 20 |
| Acetone | 105 | | 103 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 72 | | 70 | | 70-130 | 3 | | 20 |
| 2-Butanone | 95 | | 92 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 81 | | 83 | | 70-130 | 2 | | 20 |
| 2-Hexanone | 89 | | 91 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 93 | | 93 | | 70-130 | 0 | | 20 |
| Tetrahydrofuran | 82 | | 88 | | 70-130 | 7 | | 20 |
| 2,2-Dichloropropane | 88 | | 87 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 92 | | 95 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 93 | | 95 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 92 | | 96 | | 70-130 | 4 | | 20 |
| Bromobenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 85 | | 83 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 95 | | 94 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 83 | | 86 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 89 | | 91 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Naphthalene | 80 | | 81 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 84 | | 84 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019301
**Report Date:** 12/06/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG446381-1 WG446381-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 87 | | 87 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 89 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 99 | | 97 | | 70-130 | 2 | | 20 |
| Ethyl ether | 94 | | 91 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 96 | | 96 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 94 | | 92 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 100 | | 94 | | 70-130 | 6 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 102 | | 70-130 |
| Toluene-d8 | 102 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 100 | | 70-130 |
| Dibromofluoromethane | 102 | | 101 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019301
**Report Date:** 12/06/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1019301-01A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-01B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-01C | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-02A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1019301-02B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019301 |
| **Project Number:** | 0114119 | **Report Date:** | 12/06/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019301 |
| **Project Number:** | 0114119 | **Report Date:** | 12/06/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019301
**Project Number:** 0114119 **Report Date:** 12/06/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/3/10

ALPHA Job #: L101 9301

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St. 6th Floor
Boston, MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: Jason.Flattery@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0114119
Project Manager: Jason Flattery
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 24 Hour Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State /Fed Program | Criteria |
|---|---|
| MA MCP | MCP GW-1 |

Other Project Specific Requirements/Comments/Detection Limits:

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: 8021 List by 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 9301. 1 | ~~B1~~ B2 Return Water | 12/3/10 | 15:10 | GW | JA | X | | 3 |
| .2 | APS IDW | 12/3/10 | 13:00 | GW | JA | X | | 2 |

SAMPLE HANDLING
Filtration ☐ Done ☒ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | V | | | | | | | | | | | | | | | | |
| Preservative | B | | | | | | | | | | | | | | | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 12/3/10 17:12 | | 12-3-10 1712 |
| | 12/3/10 18:30 | | 12-3-10 18:30 |
| | 12/3/10 19:10 | | 12/3/10 1910 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

Serial_No:12061014:37

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1019909 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/16/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1019909-01 | MW-501M-20101214-01 | WAYLAND, MA | 12/14/10 09:30 |
| L1019909-02 | DUP-001-20101214-01 | WAYLAND, MA | 12/14/10 11:11 |
| L1019909-03 | MW-501B-20101214-01 | WAYLAND, MA | 12/14/10 11:10 |
| L1019909-04 | MW-502B-20101214-01 | WAYLAND, MA | 12/14/10 13:15 |
| L1019909-05 | MW-502M-20101214-01 | WAYLAND, MA | 12/14/10 14:15 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | NO |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909
**Project Number:** 0114119 **Report Date:** 12/16/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Sample Receipt

In reference to question A:

The samples were received frozen. The analysis proceeded at the client's request.

Volatile Organics

In reference to question H:

The initial calibration, associated with L1019909-01 through -05, utilized a quadratic fit for trans-1,3-Dichloropropene and Bromoform.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 12/16/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-01 | Date Collected: | 12/14/10 09:30 |
| Client ID: | MW-501M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 15:32 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-01 | Date Collected: | 12/14/10 09:30 |
| Client ID: | MW-501M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-02 | Date Collected: | 12/14/10 11:11 |
| Client ID: | DUP-001-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 16:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-02 | Date Collected: | 12/14/10 11:11 |
| Client ID: | DUP-001-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-03 | Date Collected: | 12/14/10 11:10 |
| Client ID: | MW-501B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 16:35 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-03 | Date Collected: | 12/14/10 11:10 |
| Client ID: | MW-501B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-04 | Date Collected: | 12/14/10 13:15 |
| Client ID: | MW-502B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/16/10 06:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-04 | Date Collected: | 12/14/10 13:15 |
| Client ID: | MW-502B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-05 | Date Collected: | 12/14/10 14:15 |
| Client ID: | MW-502M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 17:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-05 | Date Collected: | 12/14/10 14:15 |
| Client ID: | MW-502M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/15/10 15:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG448081-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/15/10 15:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG448081-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/15/10 15:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG448081-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/16/10 06:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG448081-6 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/16/10 06:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG448081-6 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/16/10 06:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG448081-6 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| Methylene chloride | 106 | | 107 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 102 | | 104 | | 70-130 | 2 | | 20 |
| Chloroform | 102 | | 105 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 90 | | 101 | | 70-130 | 12 | | 20 |
| 1,2-Dichloropropane | 103 | | 103 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 85 | | 89 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 105 | | 100 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 108 | | 110 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 110 | | 113 | | 70-130 | 3 | | 20 |
| 1,2-Dichloroethane | 104 | | 106 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 102 | | 70-130 | 8 | | 20 |
| Bromodichloromethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 85 | | 88 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 83 | | 87 | | 70-130 | 5 | | 20 |
| 1,1-Dichloropropene | 100 | | 104 | | 70-130 | 4 | | 20 |
| Bromoform | 80 | | 88 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 92 | | 70-130 | 1 | | 20 |
| Benzene | 104 | | 105 | | 70-130 | 1 | | 20 |
| Toluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 105 | | 107 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| Chloromethane | 111 | | 112 | | 70-130 | 1 | | 20 |
| Bromomethane | 85 | | 94 | | 70-130 | 10 | | 20 |
| Vinyl chloride | 108 | | 113 | | 70-130 | 5 | | 20 |
| Chloroethane | 107 | | 107 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 105 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 98 | | 103 | | 70-130 | 5 | | 20 |
| Trichloroethene | 96 | | 98 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 82 | | 77 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 107 | | 110 | | 70-130 | 3 | | 20 |
| o-Xylene | 101 | | 103 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 104 | | 107 | | 70-130 | 3 | | 20 |
| Dibromomethane | 108 | | 104 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 88 | | 91 | | 70-130 | 3 | | 20 |
| Styrene | 101 | | 101 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 114 | | 119 | | 70-130 | 4 | | 20 |
| Acetone | 102 | | 99 | | 70-130 | 3 | | 20 |
| Carbon disulfide | 70 | | 78 | | 70-130 | 11 | | 20 |
| 2-Butanone | 98 | | 96 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 88 | | 83 | | 70-130 | 6 | | 20 |
| 2-Hexanone | 87 | | 87 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 104 | | 105 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 81 | | 79 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 92 | | 98 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 93 | | 98 | | 70-130 | 5 | | 20 |
| Bromobenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 102 | | 106 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 99 | | 104 | | 70-130 | 5 | | 20 |
| tert-Butylbenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| o-Chlorotoluene | 94 | | 98 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | **65** | Q | 74 | | 70-130 | 13 | | 20 |
| Hexachlorobutadiene | 101 | | 108 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 101 | | 103 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 104 | | 108 | | 70-130 | 4 | | 20 |
| Naphthalene | 79 | | 80 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 97 | | 101 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 91 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 93 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 105 | | 70-130 | 5 | | 20 |
| Ethyl ether | 88 | | 85 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 93 | | 94 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 84 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 106 | | 114 | | 70-130 | 7 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 100 | | 70-130 |
| Toluene-d8 | 100 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 92 | | 70-130 |
| Dibromofluoromethane | 104 | | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| Methylene chloride | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethane | 97 | | 94 | | 70-130 | 3 | | 20 |
| Chloroform | 99 | | 96 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 86 | | 87 | | 70-130 | 1 | | 20 |
| 1,2-Dichloropropane | 104 | | 98 | | 70-130 | 6 | | 20 |
| Dibromochloromethane | 83 | | 88 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 103 | | 98 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| 1,2-Dichloroethane | 99 | | 97 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 90 | | 70-130 | 0 | | 20 |
| Bromodichloromethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 86 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 83 | | 86 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 98 | | 91 | | 70-130 | 7 | | 20 |
| Bromoform | 77 | | 88 | | 70-130 | 13 | | 20 |
| 1,1,2,2-Tetrachloroethane | 85 | | 89 | | 70-130 | 5 | | 20 |
| Benzene | 101 | | 95 | | 70-130 | 6 | | 20 |
| Toluene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 100 | | 97 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| Chloromethane | 112 | | 104 | | 70-130 | 7 | | 20 |
| Bromomethane | 95 | | 93 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 104 | | 99 | | 70-130 | 5 | | 20 |
| Chloroethane | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 96 | | 93 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 95 | | 90 | | 70-130 | 5 | | 20 |
| Trichloroethene | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 81 | | 79 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 104 | | 99 | | 70-130 | 5 | | 20 |
| o-Xylene | 98 | | 96 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 95 | | 70-130 | 7 | | 20 |
| Dibromomethane | 103 | | 105 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 87 | | 70-130 | 2 | | 20 |
| Styrene | 97 | | 94 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 108 | | 97 | | 70-130 | 11 | | 20 |
| Acetone | 101 | | 97 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 70 | | 71 | | 70-130 | 1 | | 20 |
| 2-Butanone | 100 | | 94 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| 4-Methyl-2-pentanone | 90 | | 90 | | 70-130 | 0 | | 20 |
| 2-Hexanone | 83 | | 87 | | 70-130 | 5 | | 20 |
| Bromochloromethane | 101 | | 101 | | 70-130 | 0 | | 20 |
| Tetrahydrofuran | 78 | | 82 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 89 | | 89 | | 70-130 | 0 | | 20 |
| 1,2-Dibromoethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 104 | | 100 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 93 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | **64** | Q | 77 | | 70-130 | 18 | | 20 |
| Hexachlorobutadiene | 103 | | 100 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 104 | | 101 | | 70-130 | 3 | | 20 |
| Naphthalene | 79 | | 79 | | 70-130 | 0 | | 20 |
| n-Propylbenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 89 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Ethyl ether | 89 | | 84 | | 70-130 | 6 | | 20 |
| Isopropyl Ether | 92 | | 92 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 84 | | 86 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 124 | | 114 | | 70-130 | 8 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 99 | | 70-130 |
| Toluene-d8 | 98 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 97 | | 70-130 |
| Dibromofluoromethane | 105 | | 102 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1019909-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019909 |
| **Project Number:** | 0114119 | **Report Date:** | 12/16/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019909 |
| **Project Number:** | 0114119 | **Report Date:** | 12/16/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909
**Project Number:** 0114119 **Report Date:** 12/16/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:12161013:08

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/14/10

ALPHA Job #: L1019909

Eight Walkup Drive Westborough, MA 01581
TEL: 508-898-9220 FAX: 508-898-9193

**Client Information**

Client: ERM
Address: 399 Boylston St 6th Flr
Boston, MA 02116
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flattery@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0114119
Project Manager: Jason Flattery
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/16/10 Time: 1700

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program: MCP
Criteria: GW-1

**MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are Drinking Water Samples Submitted?
☐ Yes ☐ No Have you met minimum field QC requirements?

Other Project Specific Requirements/Comments/Detection Limits:

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8021 by PID/GC | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 19909 1 | MW-501M-20101214-01 | 12/14/10 | 930 | GW | JM | 2 | | 2 |
| 2 | DUP-001-20101214-01 | 12/14/10 | 1111 | GW | JM | 2 | | 2 |
| 3 | MW-501B-20101214-01 | 12/14/10 | 1210 | GW | JM | 2 | | 2 |
| 4 | MW-502B-20101214-01 | 12/14/10 | 1315 | GW | JM | 2 | | 2 |
| 5 | MW-502M-20101214-01 | 12/14/10 | 1415 | GW | JM | 2 | | 2 |

Container Type: V
Preservative: B

**QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY**

IS YOUR PROJECT MCP? Yes

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 12/14/10 1600 | [signature] | 12/14/10 16[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1020279 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/31/10 |

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Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020279
**Report Date:** 12/31/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1020279-01 | EB-01-20101220-01 | WAYLAND, MA | 12/20/10 08:20 |
| L1020279-02 | EB-02-20101220-01 | WAYLAND, MA | 12/20/10 08:10 |
| L1020279-03 | APS-128-18.0-20101220-01 | WAYLAND, MA | 12/20/10 09:17 |
| L1020279-04 | APS-128-33.2-20101220-01 | WAYLAND, MA | 12/20/10 11:08 |
| L1020279-05 | APS-128-37.5-20101220-01 | WAYLAND, MA | 12/20/10 11:43 |
| L1020279-06 | APS-128-41.4-20101220-01 | WAYLAND, MA | 12/20/10 12:32 |
| L1020279-07 | APS-128-23.2-20101220-01 | WAYLAND, MA | 12/20/10 10:09 |
| L1020279-08 | APS-128-46.5-20101220-01 | WAYLAND, MA | 12/20/10 13:17 |
| L1020279-09 | APS-129-23.10-20101220-01 | WAYLAND, MA | 12/20/10 10:23 |
| L1020279-10 | APS-128-28.2-20101220-01 | WAYLAND, MA | 12/20/10 10:38 |
| L1020279-11 | APS-129-28.0-20101220-01 | WAYLAND, MA | 12/20/10 10:51 |
| L1020279-12 | APS-129-43.0-20101220-01 | WAYLAND, MA | 12/20/10 12:56 |
| L1020279-13 | APS-129-33.0-20101220-01 | WAYLAND, MA | 12/20/10 11:26 |
| L1020279-14 | APS-129-18.20-20101220-01 | WAYLAND, MA | 12/20/10 09:46 |
| L1020279-15 | APS-129-38.0-20101220-01 | WAYLAND, MA | 12/20/10 12:02 |
| L1020279-16 | APS-129-48.20-20101220-01 | WAYLAND, MA | 12/20/10 13:38 |
| L1020279-17 | APS-128-50.2-20101220-01 | WAYLAND, MA | 12/20/10 14:03 |
| L1020279-18 | APS-128-54.9-20101220-01 | WAYLAND, MA | 12/20/10 14:37 |
| L1020279-19 | APS-129-53.0-20101220-01 | WAYLAND, MA | 12/20/10 14:18 |
| L1020279-20 | APS-128-59.9-20101220-01 | WAYLAND, MA | 12/20/10 15:14 |
| L1020279-21 | APS-129-58.8-20101220-01 | WAYLAND, MA | 12/20/10 15:17 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279
**Project Number:** 0114119 **Report Date:** 12/31/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The surrogate recovery for L1020279-16 is above the acceptance criteria for 1,2-Dichloroethane-d4 (157%). Since the sample was non-detect for all target analytes, re-analysis was not required.

The WG449726-2 LCS recovery, associated with L1020279-01 through -04, is below the individual acceptance criteria for Naphthalene (67%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG449931-1/-2 LCS/LCSD recoveries, associated with L1020279-05 through -15, -19, -20, and -21,

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279
**Project Number:** 0114119 **Report Date:** 12/31/10

**Case Narrative (continued)**

are below the acceptance criteria for Carbon disulfide (LCS at 68%) and 1,2-Dibromo-3-chloropropane (LCSD at 66%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG449931-1/-2 LCS/LCSD recoveries, associated with L1020279-05 through -15, -19, -20 and -21, are below the individual acceptance criteria for Naphthalene (66%/69%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG449931-4/-5 LCS/LCSD recoveries, associated with L1020279-16, -17 and -18, are below the acceptance criteria for Carbon disulfide (61%/68%), and 1,2-Dibromo-3-chloropropane (LCS at 66%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG449931-4/-5 LCS/LCSD recoveries, associated with L1020279-16, -17 and -18, are below the individual acceptance criteria for Naphthalene (64%/68%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG449931-4/-5 LCS/LCSD RPD, associated with L1020279-16, -17 and -18, is above the acceptance criteria for Bromomethane (38%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1020279-01 through -21, did not meet the method required minimum response factor for Acetone (0.0405), 2-Butanone (0.0540), 4-Methyl-2-pentanone (0.0405), Tetrahydrofuran (0.0374), 2-Hexanone (0.0972), 1,2-Dibromo-3-chloropropane (0.0423), and 1,4-Dioxane (0.00101); and utilized a quadratic fit for trans-1,3-Dichloropropene, Bromoform, and Naphthalene.

The continuing calibration standards, associated with L1020279-01 through -21, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 12/31/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-01 | Date Collected: | 12/20/10 08:20 |
| Client ID: | EB-01-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/29/10 23:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-01 Date Collected: 12/20/10 08:20

Client ID: EB-01-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 2.1 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-01 | Date Collected: | 12/20/10 08:20 |
| Client ID: | EB-01-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-02 | Date Collected: | 12/20/10 08:10 |
| Client ID: | EB-02-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/29/10 23:37 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-02 Date Collected: 12/20/10 08:10

Client ID: EB-02-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-02 | Date Collected: | 12/20/10 08:10 |
| Client ID: | EB-02-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 119 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-03 | Date Collected: | 12/20/10 09:17 |
| Client ID: | APS-128-18.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 00:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-03 Date Collected: 12/20/10 09:17

Client ID: APS-128-18.0-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-03 | Date Collected: | 12/20/10 09:17 |
| Client ID: | APS-128-18.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 117 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 112 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-04 | Date Collected: | 12/20/10 11:08 |
| Client ID: | APS-128-33.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 00:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.1 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-04 Date Collected: 12/20/10 11:08

Client ID: APS-128-33.2-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-04 | Date Collected: | 12/20/10 11:08 |
| Client ID: | APS-128-33.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 117 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-05 | Date Collected: | 12/20/10 11:43 |
| Client ID: | APS-128-37.5-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 11:07 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-05 Date Collected: 12/20/10 11:43

Client ID: APS-128-37.5-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-05 | Date Collected: | 12/20/10 11:43 |
| Client ID: | APS-128-37.5-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 114 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 116 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-06 | Date Collected: | 12/20/10 12:32 |
| Client ID: | APS-128-41.4-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 11:38 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-06 Date Collected: 12/20/10 12:32

Client ID: APS-128-41.4-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-06 | Date Collected: | 12/20/10 12:32 |
| Client ID: | APS-128-41.4-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-07 | Date Collected: | 12/20/10 10:09 |
| Client ID: | APS-128-23.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 12:10 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-07 | Date Collected: | 12/20/10 10:09 |
| Client ID: | APS-128-23.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-07 | Date Collected: | 12/20/10 10:09 |
| Client ID: | APS-128-23.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-08 | Date Collected: | 12/20/10 13:17 |
| Client ID: | APS-128-46.5-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 12:41 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-08 | Date Collected: | 12/20/10 13:17 |
| Client ID: | APS-128-46.5-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-08 | Date Collected: | 12/20/10 13:17 |
| Client ID: | APS-128-46.5-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-09 | Date Collected: | 12/20/10 10:23 |
| Client ID: | APS-129-23.10-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 13:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-09 | Date Collected: | 12/20/10 10:23 |
| Client ID: | APS-129-23.10-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-09 | Date Collected: | 12/20/10 10:23 |
| Client ID: | APS-129-23.10-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-10 | Date Collected: | 12/20/10 10:38 |
| Client ID: | APS-128-28.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 13:44 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-10 | Date Collected: | 12/20/10 10:38 |
| Client ID: | APS-128-28.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-10 | Date Collected: | 12/20/10 10:38 |
| Client ID: | APS-128-28.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 117 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-11 | Date Collected: | 12/20/10 10:51 |
| Client ID: | APS-129-28.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 14:16 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-11 Date Collected: 12/20/10 10:51

Client ID: APS-129-28.0-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-11 | Date Collected: | 12/20/10 10:51 |
| Client ID: | APS-129-28.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-12 | Date Collected: | 12/20/10 12:56 |
| Client ID: | APS-129-43.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 14:47 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-12 | Date Collected: | 12/20/10 12:56 |
| Client ID: | APS-129-43.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-12 | Date Collected: | 12/20/10 12:56 |
| Client ID: | APS-129-43.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 122 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 119 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-13 | Date Collected: | 12/20/10 11:26 |
| Client ID: | APS-129-33.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 15:19 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-13 | Date Collected: | 12/20/10 11:26 |
| Client ID: | APS-129-33.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-13 | Date Collected: | 12/20/10 11:26 |
| Client ID: | APS-129-33.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 118 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-14 | Date Collected: | 12/20/10 09:46 |
| Client ID: | APS-129-18.20-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 15:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-14 | Date Collected: | 12/20/10 09:46 |
| Client ID: | APS-129-18.20-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-14 | Date Collected: | 12/20/10 09:46 |
| Client ID: | APS-129-18.20-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 118 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-15 | Date Collected: | 12/20/10 12:02 |
| Client ID: | APS-129-38.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 16:22 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-15 Date Collected: 12/20/10 12:02

Client ID: APS-129-38.0-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-15 | Date Collected: | 12/20/10 12:02 |
| Client ID: | APS-129-38.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 123 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-16 | Date Collected: | 12/20/10 13:38 |
| Client ID: | APS-129-48.20-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 11:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-16 Date Collected: 12/20/10 13:38

Client ID: APS-129-48.20-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-16 | Date Collected: | 12/20/10 13:38 |
| Client ID: | APS-129-48.20-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | **157** | Q | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 118 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-17 | Date Collected: | 12/20/10 14:03 |
| Client ID: | APS-128-50.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 12:22 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-17 Date Collected: 12/20/10 14:03

Client ID: APS-128-50.2-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-17 | Date Collected: | 12/20/10 14:03 |
| Client ID: | APS-128-50.2-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 123 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 117 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-18 | Date Collected: | 12/20/10 14:37 |
| Client ID: | APS-128-54.9-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 12:54 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-18 | Date Collected: | 12/20/10 14:37 |
| Client ID: | APS-128-54.9-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-18 | Date Collected: | 12/20/10 14:37 |
| Client ID: | APS-128-54.9-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-19 | Date Collected: | 12/20/10 14:18 |
| Client ID: | APS-129-53.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 18:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 5.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-19 Date Collected: 12/20/10 14:18

Client ID: APS-129-53.0-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-19 | Date Collected: | 12/20/10 14:18 |
| Client ID: | APS-129-53.0-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 121 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-20 | Date Collected: | 12/20/10 15:14 |
| Client ID: | APS-128-59.9-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 19:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-20 Date Collected: 12/20/10 15:14

Client ID: APS-128-59.9-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-20 | Date Collected: | 12/20/10 15:14 |
| Client ID: | APS-128-59.9-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 118 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-21 | Date Collected: | 12/20/10 15:17 |
| Client ID: | APS-129-58.8-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 19:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 10 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

Lab ID: L1020279-21 Date Collected: 12/20/10 15:17

Client ID: APS-129-58.8-20101220-01 Date Received: 12/20/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020279-21 | Date Collected: | 12/20/10 15:17 |
| Client ID: | APS-129-58.8-20101220-01 | Date Received: | 12/20/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 116 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/29/10 14:10
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG449726-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/29/10 14:10
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG449726-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/29/10 14:10
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-04 Batch: WG449726-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 70-130 |
| D bromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 09:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-15,19-21 Batch: WG449931-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 09:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-15,19-21 Batch: WG449931-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 09:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-15,19-21 Batch: WG449931-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/31/10 11:19
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 16-18 Batch: WG449931-6 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/31/10 11:19
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 16-18 Batch: WG449931-6 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279

**Project Number:** 0114119 **Report Date:** 12/31/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/31/10 11:19
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 16-18 Batch: WG449931-6 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG449726-1 WG449726-2 | | | | | | | | |
| Methylene chloride | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Chloroform | 101 | | 100 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 102 | | 97 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 104 | | 103 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 110 | | 108 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 103 | | 105 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 112 | | 106 | | 70-130 | 6 | | 20 |
| 1,2-Dichloroethane | 103 | | 100 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 97 | | 94 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 101 | | 94 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 100 | | 94 | | 70-130 | 6 | | 20 |
| cis-1,3-Dichloropropene | 93 | | 87 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 95 | | 96 | | 70-130 | 1 | | 20 |
| Bromoform | 98 | | 85 | | 70-130 | 14 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 91 | | 70-130 | 7 | | 20 |
| Benzene | 100 | | 102 | | 70-130 | 2 | | 20 |
| Toluene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 103 | | 105 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG449726-1 WG449726-2 | | | | | | | | |
| Chloromethane | 102 | | 104 | | 70-130 | 2 | | 20 |
| Bromomethane | 85 | | 77 | | 70-130 | 10 | | 20 |
| Vinyl chloride | 115 | | 117 | | 70-130 | 2 | | 20 |
| Chloroethane | 107 | | 110 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 95 | | 94 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Trichloroethene | 92 | | 94 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 98 | | 93 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 97 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 89 | | 83 | | 70-130 | 7 | | 20 |
| p/m-Xylene | 106 | | 107 | | 70-130 | 1 | | 20 |
| o-Xylene | 103 | | 107 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 101 | | 102 | | 70-130 | 1 | | 20 |
| Dibromomethane | 112 | | 108 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 87 | | 70-130 | 8 | | 20 |
| Styrene | 108 | | 110 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 86 | | 92 | | 70-130 | 7 | | 20 |
| Acetone | 118 | | 108 | | 70-130 | 9 | | 20 |
| Carbon disulfide | 76 | | 73 | | 70-130 | 4 | | 20 |
| 2-Butanone | 108 | | 106 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG449726-1 WG449726-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 95 | | 91 | | 70-130 | 4 | | 20 |
| 2-Hexanone | 102 | | 89 | | 70-130 | 14 | | 20 |
| Bromochloromethane | 104 | | 102 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 88 | | 86 | | 70-130 | 2 | | 20 |
| 2,2-Dichloropropane | 93 | | 91 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 102 | | 95 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 103 | | 101 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 108 | | 105 | | 70-130 | 3 | | 20 |
| Bromobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 88 | | 91 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 88 | | 88 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 94 | | 93 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 75 | | 70-130 | 15 | | 20 |
| Hexachlorobutadiene | 88 | | 83 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 96 | | 99 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Naphthalene | 75 | | **67** | Q | 70-130 | 11 | | 20 |
| n-Propylbenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 81 | | 74 | | 70-130 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-04 Batch: WG449726-1 WG449726-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 77 | | 70-130 | 9 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 98 | | 97 | | 70-130 | 1 | | 20 |
| Ethyl ether | 94 | | 85 | | 70-130 | 10 | | 20 |
| Isopropyl Ether | 105 | | 101 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 96 | | 90 | | 70-130 | 6 | | 20 |
| Tertiary-Amyl Methyl Ether | 104 | | 102 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 100 | | 94 | | 70-130 | 6 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 103 | | 70-130 |
| Toluene-d8 | 101 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 89 | | 88 | | 70-130 |
| Dibromofluoromethane | 104 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-15,19-21 Batch: WG449931-1 WG449931-2 | | | | | | | | |
| Methylene chloride | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chloroform | 95 | | 97 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 91 | | 97 | | 70-130 | 6 | | 20 |
| 1,2-Dichloropropane | 97 | | 100 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 84 | | 88 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 95 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 104 | | 102 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| 1,2-Dichloroethane | 97 | | 97 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 88 | | 92 | | 70-130 | 4 | | 20 |
| Bromodichloromethane | 86 | | 91 | | 70-130 | 6 | | 20 |
| trans-1,3-Dichloropropene | 86 | | 88 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 78 | | 83 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 90 | | 94 | | 70-130 | 4 | | 20 |
| Bromoform | 82 | | 89 | | 70-130 | 8 | | 20 |
| 1,1,2,2-Tetrachloroethane | 86 | | 90 | | 70-130 | 5 | | 20 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Toluene | 96 | | 94 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 100 | | 98 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-15,19-21 Batch: WG449931-1 WG449931-2 | | | | | | | | |
| Chloromethane | 103 | | 100 | | 70-130 | 3 | | 20 |
| Bromomethane | 71 | | 77 | | 70-130 | 8 | | 20 |
| Vinyl chloride | 112 | | 113 | | 70-130 | 1 | | 20 |
| Chloroethane | 106 | | 106 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 91 | | 95 | | 70-130 | 4 | | 20 |
| trans-1,2-Dichloroethene | 91 | | 93 | | 70-130 | 2 | | 20 |
| Trichloroethene | 85 | | 88 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 83 | | 87 | | 70-130 | 5 | | 20 |
| p/m-Xylene | 105 | | 101 | | 70-130 | 4 | | 20 |
| o-Xylene | 108 | | 103 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Dibromomethane | 101 | | 104 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 86 | | 70-130 | 1 | | 20 |
| Styrene | 108 | | 105 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 88 | | 84 | | 70-130 | 5 | | 20 |
| Acetone | 108 | | 106 | | 70-130 | 2 | | 20 |
| Carbon disulfide | **68** | Q | 74 | | 70-130 | 8 | | 20 |
| 2-Butanone | 98 | | 103 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-15,19-21 Batch: WG449931-1 WG449931-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 92 | | 90 | | 70-130 | 2 | | 20 |
| 2-Hexanone | 99 | | 99 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 94 | | 101 | | 70-130 | 7 | | 20 |
| Tetrahydrofuran | 90 | | 86 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 97 | | 92 | | 70-130 | 5 | | 20 |
| 1,1,1,2-Tetrachloroethane | 96 | | 94 | | 70-130 | 2 | | 20 |
| Bromobenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 86 | | 88 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 91 | | 96 | | 70-130 | 5 | | 20 |
| p-Chlorotoluene | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 71 | | **66** | Q | 70-130 | 7 | | 20 |
| Hexachlorobutadiene | 88 | | 91 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 94 | | 93 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Naphthalene | **66** | Q | **69** | Q | 70-130 | 4 | | 20 |
| n-Propylbenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 72 | | 78 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-15,19-21 Batch: WG449931-1 WG449931-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 77 | | 80 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| Ethyl ether | 82 | | 92 | | 70-130 | 11 | | 20 |
| Isopropyl Ether | 100 | | 103 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 89 | | 93 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 116 | | 112 | | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 103 | | 70-130 |
| Toluene-d8 | 105 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 88 | | 89 | | 70-130 |
| Dibromofluoromethane | 105 | | 108 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 16-18 Batch: WG449931-4 WG449931-5 | | | | | | | | |
| Methylene chloride | 102 | | 104 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethane | 99 | | 103 | | 70-130 | 7 | | 20 |
| Chloroform | 96 | | 102 | | 70-130 | 7 | | 20 |
| Carbon tetrachloride | 88 | | 99 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 99 | | 103 | | 70-130 | 6 | | 20 |
| Dibromochloromethane | 85 | | 87 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 107 | | 104 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 105 | | 104 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 96 | | 96 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 113 | | 125 | | 70-130 | 20 | | 20 |
| 1,2-Dichloroethane | 106 | | 102 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 96 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 87 | | 90 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 94 | | 92 | | 70-130 | 7 | | 20 |
| cis-1,3-Dichloropropene | 79 | | 84 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 94 | | 96 | | 70-130 | 6 | | 20 |
| Bromoform | 80 | | 83 | | 70-130 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 92 | | 70-130 | 7 | | 20 |
| Benzene | 102 | | 104 | | 70-130 | 8 | | 20 |
| Toluene | 100 | | 99 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 103 | | 103 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 16-18 Batch: WG449931-4 WG449931-5 | | | | | | | | |
| Chloromethane | 114 | | 119 | | 70-130 | 14 | | 20 |
| Bromomethane | 99 | | 104 | | 70-130 | **38** | Q | 20 |
| Vinyl chloride | 121 | | 129 | | 70-130 | 14 | | 20 |
| Chloroethane | 115 | | 117 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 91 | | 99 | | 70-130 | 8 | | 20 |
| trans-1,2-Dichloroethene | 94 | | 97 | | 70-130 | 6 | | 20 |
| Trichloroethene | 88 | | 94 | | 70-130 | 10 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 95 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 91 | | 93 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 94 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 87 | | 86 | | 70-130 | 4 | | 20 |
| p/m-Xylene | 106 | | 106 | | 70-130 | 1 | | 20 |
| o-Xylene | 107 | | 106 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 102 | | 70-130 | 7 | | 20 |
| Dibromomethane | 102 | | 105 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 91 | | 89 | | 70-130 | 5 | | 20 |
| Styrene | 105 | | 105 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 96 | | 96 | | 70-130 | 9 | | 20 |
| Acetone | 110 | | 109 | | 70-130 | 1 | | 20 |
| Carbon disulfide | **61** | Q | **68** | Q | 70-130 | 0 | | 20 |
| 2-Butanone | 98 | | 100 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020279
**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 16-18 Batch: WG449931-4 WG449931-5 | | | | | | | | |
| 4-Methyl-2-pentanone | 86 | | 88 | | 70-130 | 4 | | 20 |
| 2-Hexanone | 96 | | 93 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 103 | | 106 | | 70-130 | 12 | | 20 |
| Tetrahydrofuran | 85 | | 89 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 89 | | 97 | | 70-130 | 9 | | 20 |
| 1,2-Dibromoethane | 100 | | 96 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 104 | | 100 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 99 | | 101 | | 70-130 | 5 | | 20 |
| Bromobenzene | 94 | | 96 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 91 | | 93 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 87 | | 90 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 84 | | 88 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 93 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 91 | | 92 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | **66** | Q | 74 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 77 | | 86 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 94 | | 97 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 91 | | 94 | | 70-130 | 0 | | 20 |
| Naphthalene | **64** | Q | **68** | Q | 70-130 | 3 | | 20 |
| n-Propylbenzene | 91 | | 93 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 71 | | 80 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0114119

**Lab Number:** L1020279

**Report Date:** 12/31/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 16-18 Batch: WG449931-4 WG449931-5 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 71 | | 79 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 90 | | 91 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 95 | | 97 | | 70-130 | 0 | | 20 |
| Ethyl ether | 86 | | 90 | | 70-130 | 9 | | 20 |
| Isopropyl Ether | 98 | | 103 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 90 | | 94 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 96 | | 102 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 116 | | 114 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 109 | | 70-130 |
| Toluene-d8 | 106 | | 104 | | 70-130 |
| 4-Bromofluorobenzene | 89 | | 93 | | 70-130 |
| Dibromofluoromethane | 101 | | 106 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020279
**Report Date:** 12/31/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020279-01A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-01B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-02A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-02B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-03A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-03B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-04A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-04B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-05A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-05B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-06A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-06B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-07A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-07B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-08A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-08B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-09A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-09B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-10A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-10B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-11A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-11B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-12A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-12B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-13A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-13B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-14A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020279
**Report Date:** 12/31/10

## Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020279-14B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-15A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-15B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-16A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-16B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-17A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-17B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-18A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-18B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-19A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-19B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-20A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-20B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-21A | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020279-21B | Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |

## Container Comments

L1020279-01A

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020279 |
| **Project Number:** | 0114119 | **Report Date:** | 12/31/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020279 |
| **Project Number:** | 0114119 | **Report Date:** | 12/31/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020279
**Project Number:** 0114119 **Report Date:** 12/31/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/20/10

ALPHA Job #: L1020279

**Client Information**

Client: ~~RAYTHEON~~ ERM

Address: 399 Boylston St. Boston MA ~~02174~~ 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTER@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND

Project Location: WAYLAND MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/28/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| L0279. 1 | EB-01-20101220-01 | 12/20/2010 | 0820 | GW | LSM | 2 | | |
| 2 | EB-02-20101220-01 | ↓ | 0810 | ↓ | ↓ | ↓ | | |
| 3 | APS-128-18.0-20101220-01 | | 0917 | | | | | |
| 4 | APS-128-33.2-20101220-01 | | 1108 | | | | | |
| 5 | APS-128-37.5-20101220-01 | | 1143 | | | | | |
| 6 | APS-128-41.4-20101220-01 | | 1232 | | | | | |
| 7 | APS-128-23.2-20101220-01 | | 1009 | | | | | |
| 8 | APS-128-46.5-20101220-01 | | 1317 | | | | | |
| 9 | APS-129-23.10-20101220-01 | | 1023 | | | | | |
| 10 | APS-128-28.2-20101220-01 | ↓ | 1038 | ↓ | ↓ | ↓ | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 12/20/10 1650 | [illegible] | 12/20/10 1650 |
| [illegible] | 12/20/10 1650 | [illegible] | 12/20/10 1650 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial No:12311016:01

# CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 12/20/10

ALPHA Job #: 1020279

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: 12/28/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20279 11 | APS-129-28.0-20101220-01 | 12/10/2010 | 1051 | G-W | LSM | 2 | | |
| 12 | APS-129-43.0-20101220-01 | | 1256 | | | | | |
| 13 | APS-129-33.0-20101220-01 | | 1126 | | | | | |
| 14 | APS-129-18.20-20101220-01 | | 0946 | | | | | |
| 15 | APS-129-38.0-20101220-01 | | 1202 | | | | | |
| 16 | APS-129-48.20-20101220-01 | | 1338 | | | | | |
| 17 | APS-128-50.2-20101220-01 | | 1403 | | | | | |
| 18 | APS-128-54.9-20101220-01 | | 1437 | | | | | |
| 19 | APS-129-53.0-20101220-01 | | 1418 | | | | | |
| 20 | APS-128-59.9-20101220-01 | | 1514 | | | | | |

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VIAL | | | | | | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 12/20/10 1650 | [signature] | 12/20/10 1650 |
| | | [signature] | 12/20/10 1650 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 12/20/10

ALPHA Job #: L1020279

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/28/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: 8260 VOC

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | 8260 VOC | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20279 21 | APS-129-58.8-20101220-01 | 12/10/20 | 1517 | GW | LSM | 2 | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 12/20/10 1650 | [illegible] | 12/20/10 1650 |
| [illegible] | 12/20/10 1650 | [illegible] | 12/20/10 1650 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:12311016:01

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 29-DEC-2010  Time: 13:39

Lab File ID: 1229A02  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .28919 | .1 | 14 | 20 | |
| chloromethane | .4498 | .45916 | .1 | -2 | 20 | |
| vinyl chloride | .32842 | .37842 | .1 | -15 | 20 | |
| bromomethane | .2618 | .22333 | .1 | 15 | 20 | |
| chloroethane | .26039 | .27968 | .1 | -7 | 20 | |
| trichlorofluoromethane | .53057 | .59225 | .1 | -12 | 20 | |
| ethyl ether | .11539 | .10857 | .05 | 6 | 20 | |
| acetone | .04052 | .04784 | .1 | -18 | 20 | F |
| 1,1,-dichloroethene | .28629 | .27165 | .1 | 5 | 20 | |
| methylene chloride | .30757 | .31242 | .1 | -2 | 20 | |
| carbon disulfide | .78949 | .59994 | .1 | 24 | 20 | F |
| methyl tert butyl ether | .38634 | .34379 | .1 | 11 | 20 | |
| trans-1,2-dichloroethene | .32749 | .3076 | .1 | 6 | 20 | |
| Diisopropyl Ether | .8809 | .92424 | .05 | -5 | 20 | |
| 1,1-dichloroethane | .59499 | .59211 | .2 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .53248 | .05 | 4 | 20 | |
| 2-butanone | .05397 | .05813 | .1 | -8 | 20 | F |
| 2,2-dichloropropane | .3505 | .32725 | .05 | 7 | 20 | |
| cis-1,2-dichloroethene | .35294 | .35568 | .1 | -1 | 20 | |
| chloroform | .55513 | .56235 | .2 | -1 | 20 | |
| bromochloromethane | .13022 | .13581 | .05 | -4 | 20 | |
| tetrahydrofuran | .03742 | .03286 | .05 | 12 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .4339 | .1 | 3 | 20 | |
| 1,1-dichloropropene | .44371 | .42323 | .05 | 5 | 20 | |
| carbontetrachloride | .3695 | .3757 | .1 | -2 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .37394 | .05 | -5 | 20 | |
| 1,2-dichloroethane | .32236 | .33173 | .1 | -3 | 20 | |
| benzene | 1.3755 | 1.3812 | .5 | 0 | 20 | |
| trichloroethene | .35538 | .32757 | .2 | 8 | 20 | |
| 1,2-dichloropropane | .29749 | .30955 | .1 | -4 | 20 | |
| bromodichloromethane | .31579 | .31978 | .2 | -1 | 20 | |
| 1,4-dioxane | .00101 | .00102 | .05 | -1 | 20 | F |
| dibromomethane | .1201 | .13493 | .05 | -12 | 20 | |
| 4-methyl-2-pentanone | .04053 | .03858 | .1 | 5 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .32741 | .2 | 7 | 20 | |
| toluene | 1.1592 | 1.1205 | .4 | 3 | 20 | |
| trans-1,3-dichloropropene | 100 | 100 | .1 | 0 | 20 | |
| 1,1,2-trichloroethane | .18721 | .2054 | .1 | -10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 29-DEC-2010  Time: 13:39

Lab File ID: 1229A02  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .09719 | .09933 | .1 | -2 | 20 | F |
| 1,3-dichloropropane | .40365 | .41649 | .05 | -3 | 20 | |
| tetrachloroethene | .52863 | .5431 | .2 | -3 | 20 | |
| chlorodibromomethane | .23194 | .23169 | .1 | 0 | 20 | |
| 1,2-dibromoethane | .20222 | .20596 | .1 | -2 | 20 | |
| chlorobenzene | 1.2741 | 1.2472 | .5 | 2 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .35856 | .05 | -8 | 20 | |
| ethyl benzene | 2.2828 | 2.3610 | .1 | -3 | 20 | |
| p/m xylene | .92639 | .97866 | .1 | -6 | 20 | |
| o xylene | .88623 | .91242 | .3 | -3 | 20 | |
| styrene | 1.3904 | 1.5026 | .31 | -8 | 20 | |
| isopropylbenzene | 2.4070 | 2.3151 | .1 | 4 | 20 | |
| bromoform | 100 | 98.035 | .1 | 2 | 20 | |
| 1,1,2,2,-tetrachloroethane | .39202 | .38554 | .3 | 2 | 20 | |
| 1,2,3-trichloropropane | .3082 | .28965 | .05 | 6 | 20 | |
| n-propylbenzene | 4.4117 | 4.0408 | .05 | 8 | 20 | |
| bromobenzene | .84912 | .8367 | .05 | 1 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8288 | .05 | 9 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7880 | .05 | 6 | 20 | |
| 4-chorotoluene | 2.6913 | 2.5335 | .05 | 6 | 20 | |
| tert-butylbenzene | 2.6420 | 2.3312 | .05 | 12 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 2.9993 | .05 | 2 | 20 | |
| sec-butylbenzene | 3.8323 | 3.3781 | .05 | 12 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.8643 | .05 | 6 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6706 | .6 | 5 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6856 | .5 | 1 | 20 | |
| n-butylbenzene | 3.0901 | 2.8498 | .05 | 8 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.4377 | .4 | 2 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03687 | .05 | 13 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .58374 | .2 | 16 | 20 | |
| hexachlorobutadiene | .38351 | .33868 | .05 | 12 | 20 | |
| naphthalene | 100 | 74.809 | .05 | 25 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .42139 | .05 | 19 | 20 | |
| dibromofluoromethane | .22479 | .23312 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .21195 | .05 | -4 | 20 | |
| toluene-d8 | 1.2342 | 1.2447 | .05 | -1 | 20 | |
| 4-bromofluorobenzene | .76826 | .68397 | .05 | 11 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 31-DEC-2010  Time: 10:16

Lab File ID: 1231A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .32149 | .1 | 4 | 20 | |
| chloromethane | .4498 | .51524 | .1 | -15 | 20 | |
| vinyl chloride | .32842 | .3963 | .1 | -21 | 20 | F |
| bromomethane | .2618 | .25934 | .1 | 1 | 20 | |
| chloroethane | .26039 | .29897 | .1 | -15 | 20 | |
| trichlorofluoromethane | .53057 | .60138 | .1 | -13 | 20 | |
| ethyl ether | .11539 | .09983 | .05 | 13 | 20 | |
| acetone | .04052 | .04439 | .1 | -10 | 20 | F |
| 1,1,-dichloroethene | .28629 | .26129 | .1 | 9 | 20 | |
| methylene chloride | .30757 | .3141 | .1 | -2 | 20 | |
| carbon disulfide | .78949 | .4816 | .1 | 39 | 20 | F |
| methyl tert butyl ether | .38634 | .33549 | .1 | 13 | 20 | |
| Halothane | .21861 | .17748 | .05 | 19 | 20 | |
| trans-1,2-dichloroethene | .32749 | .30765 | .1 | 6 | 20 | |
| Diisopropyl Ether | .8809 | .86521 | .05 | 2 | 20 | |
| vinyl acetate | .44952 | .47744 | .05 | -6 | 20 | |
| 1,1-dichloroethane | .59499 | .58923 | .2 | 1 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .49903 | .05 | 10 | 20 | |
| 2-butanone | .05397 | .05315 | .1 | 2 | 20 | F |
| 2,2-dichloropropane | .3505 | .31147 | .05 | 11 | 20 | |
| cis-1,2-dichloroethene | .35294 | .34707 | .1 | 2 | 20 | |
| chloroform | .55513 | .53324 | .2 | 4 | 20 | |
| bromochloromethane | .13022 | .13405 | .05 | -3 | 20 | |
| tetrahydrofuran | .03742 | .03196 | .05 | 15 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .42068 | .1 | 6 | 20 | |
| 1,1-dichloropropene | .44371 | .41716 | .05 | 6 | 20 | |
| carbontetrachloride | .3695 | .3264 | .1 | 12 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .3435 | .05 | 4 | 20 | |
| 1,2-dichloroethane | .32236 | .34019 | .1 | -6 | 20 | |
| benzene | 1.3755 | 1.3992 | .5 | -2 | 20 | |
| trichloroethene | .35538 | .31116 | .2 | 12 | 20 | |
| 1,2-dichloropropane | .29749 | .29542 | .1 | 1 | 20 | |
| bromodichloromethane | .31579 | .27377 | .2 | 13 | 20 | |
| 1,4-dioxane | .00101 | .00117 | .05 | -16 | 20 | F |
| dibromomethane | .1201 | .12199 | .05 | -2 | 20 | |
| 2-chloroethylvinyl ether | .08478 | .06292 | .05 | 26 | 20 | F |
| 4-methyl-2-pentanone | .04053 | .03469 | .1 | 14 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .27605 | .2 | 21 | 20 | F |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 31-DEC-2010  Time: 10:16

Lab File ID: 1231A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| toluene | 1.1592 | 1.1597 | .4 | 0 | 20 | |
| trans-1,3-dichloropropene | 100 | 93.534 | .1 | 6 | 20 | |
| 1,1,2-trichloroethane | .18721 | .1999 | .1 | -7 | 20 | |
| 2-hexanone | .09719 | .0938 | .1 | 3 | 20 | F |
| 1,3-dichloropropane | .40365 | .41835 | .05 | -4 | 20 | |
| tetrachloroethene | .52863 | .55578 | .2 | -5 | 20 | |
| chlorodibromomethane | .23194 | .19812 | .1 | 15 | 20 | |
| 1,2-dibromoethane | .20222 | .20196 | .1 | 0 | 20 | |
| chlorobenzene | 1.2741 | 1.2243 | .5 | 4 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .33057 | .05 | 1 | 20 | |
| ethyl benzene | 2.2828 | 2.3583 | .1 | -3 | 20 | |
| p/m xylene | .92639 | .98229 | .1 | -6 | 20 | |
| o xylene | .88623 | .94494 | .3 | -7 | 20 | |
| styrene | 1.3904 | 1.4555 | .31 | -5 | 20 | |
| isopropylbenzene | 2.4070 | 2.2627 | .1 | 6 | 20 | |
| bromoform | 100 | 79.674 | .1 | 20 | 20 | F |
| 1,1,2,2,-tetrachloroethane | .39202 | .35511 | .3 | 9 | 20 | |
| 1,2,3-trichloropropane | .3082 | .28078 | .05 | 9 | 20 | |
| n-propylbenzene | 4.4117 | 4.0228 | .05 | 9 | 20 | |
| bromobenzene | .84912 | .79816 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.7957 | .05 | 10 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7106 | .05 | 9 | 20 | |
| 4-chorotoluene | 2.6913 | 2.4507 | .05 | 9 | 20 | |
| tert-butylbenzene | 2.6420 | 2.2101 | .05 | 16 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 2.9199 | .05 | 5 | 20 | |
| sec-butylbenzene | 3.8323 | 3.3372 | .05 | 13 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.7583 | .05 | 9 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6114 | .6 | 9 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.5927 | .5 | 7 | 20 | |
| n-butylbenzene | 3.0901 | 2.8065 | .05 | 9 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.3726 | .4 | 7 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .02793 | .05 | 34 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .49752 | .2 | 29 | 20 | F |
| hexachlorobutadiene | .38351 | .29653 | .05 | 23 | 20 | F |
| naphthalene | 100 | 64.054 | .05 | 36 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .36804 | .05 | 29 | 20 | F |
| dibromofluoromethane | .22479 | .2269 | .05 | -1 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 31-DEC-2010  Time: 10:16

Lab File ID: 1231A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,2-dichloroethane-d4 | .20346 | .22018 | .05 | -8 | 20 |
| toluene-d8 | 1.2342 | 1.3114 | .05 | -6 | 20 |
| 4-bromofluorobenzene | .76826 | .68088 | .05 | 11 | 20 |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 30-DEC-2010  Time: 07:57

Lab File ID: 1230A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .29694 | .1 | 12 | 20 | |
| chloromethane | .4498 | .46354 | .1 | -3 | 20 | |
| vinyl chloride | .32842 | .3676 | .1 | -12 | 20 | |
| bromomethane | .2618 | .18676 | .1 | 29 | 20 | F |
| chloroethane | .26039 | .2755 | .1 | -6 | 20 | |
| trichlorofluoromethane | .53057 | .54371 | .1 | -2 | 20 | |
| ethyl ether | .11539 | .09422 | .05 | 18 | 20 | |
| acetone | .04052 | .04384 | .1 | -8 | 20 | F |
| 1,1,-dichloroethene | .28629 | .2615 | .1 | 9 | 20 | |
| methylene chloride | .30757 | .29978 | .1 | 3 | 20 | |
| carbon disulfide | .78949 | .53358 | .1 | 32 | 20 | F |
| methyl tert butyl ether | .38634 | .31957 | .1 | 17 | 20 | |
| trans-1,2-dichloroethene | .32749 | .29732 | .1 | 9 | 20 | |
| Diisopropyl Ether | .8809 | .87891 | .05 | 0 | 20 | |
| 1,1-dichloroethane | .59499 | .57108 | .2 | 4 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .49393 | .05 | 11 | 20 | |
| 2-butanone | .05397 | .05285 | .1 | 2 | 20 | F |
| 2,2-dichloropropane | .3505 | .31239 | .05 | 11 | 20 | |
| cis-1,2-dichloroethene | .35294 | .33682 | .1 | 5 | 20 | |
| chloroform | .55513 | .52925 | .2 | 5 | 20 | |
| bromochloromethane | .13022 | .12305 | .05 | 5 | 20 | |
| tetrahydrofuran | .03742 | .03382 | .05 | 10 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .39723 | .1 | 11 | 20 | |
| 1,1-dichloropropene | .44371 | .40139 | .05 | 10 | 20 | |
| carbontetrachloride | .3695 | .33764 | .1 | 9 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .35164 | .05 | 2 | 20 | |
| 1,2-dichloroethane | .32236 | .31188 | .1 | 3 | 20 | |
| benzene | 1.3755 | 1.325 | .5 | 4 | 20 | |
| trichloroethene | .35538 | .30339 | .2 | 15 | 20 | |
| 1,2-dichloropropane | .29749 | .28921 | .1 | 3 | 20 | |
| bromodichloromethane | .31579 | .2712 | .2 | 14 | 20 | |
| 1,4-dioxane | .00101 | .00118 | .05 | -16 | 20 | F |
| dibromomethane | .1201 | .12085 | .05 | -1 | 20 | |
| 4-methyl-2-pentanone | .04053 | .0373 | .1 | 8 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .27369 | .2 | 22 | 20 | F |
| toluene | 1.1592 | 1.1142 | .4 | 4 | 20 | |
| trans-1,3-dichloropropene | 100 | 85.502 | .1 | 14 | 20 | |
| 1,1,2-trichloroethane | .18721 | .18795 | .1 | 0 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 30-DEC-2010  Time: 07:57

Lab File ID: 1230A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .09719 | .09645 | .1 | 1 | 20 | F |
| 1,3-dichloropropane | .40365 | .39333 | .05 | 3 | 20 | |
| tetrachloroethene | .52863 | .54757 | .2 | -4 | 20 | |
| chlorodibromomethane | .23194 | .19566 | .1 | 16 | 20 | |
| 1,2-dibromoethane | .20222 | .18979 | .1 | 6 | 20 | |
| chlorobenzene | 1.2741 | 1.2100 | .5 | 5 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .32097 | .05 | 4 | 20 | |
| ethyl benzene | 2.2828 | 2.2951 | .1 | -1 | 20 | |
| p/m xylene | .92639 | .97393 | .1 | -5 | 20 | |
| o xylene | .88623 | .96015 | .3 | -8 | 20 | |
| styrene | 1.3904 | 1.5030 | .31 | -8 | 20 | |
| isopropylbenzene | 2.4070 | 2.2650 | .1 | 6 | 20 | |
| bromoform | 100 | 81.557 | .1 | 18 | 20 | |
| 1,1,2,2,-tetrachloroethane | .39202 | .33896 | .3 | 14 | 20 | |
| 1,2,3-trichloropropane | .3082 | .26252 | .05 | 15 | 20 | |
| n-propylbenzene | 4.4117 | 4.0613 | .05 | 8 | 20 | |
| bromobenzene | .84912 | .81585 | .05 | 4 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8303 | .05 | 9 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7005 | .05 | 9 | 20 | |
| 4-chorotoluene | 2.6913 | 2.4733 | .05 | 8 | 20 | |
| tert-butylbenzene | 2.6420 | 2.2797 | .05 | 14 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 2.9787 | .05 | 3 | 20 | |
| sec-butylbenzene | 3.8323 | 3.4975 | .05 | 9 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.8469 | .05 | 6 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6449 | .6 | 7 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6130 | .5 | 6 | 20 | |
| n-butylbenzene | 3.0901 | 2.9262 | .05 | 5 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.3486 | .4 | 8 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03021 | .05 | 29 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .53748 | .2 | 23 | 20 | F |
| hexachlorobutadiene | .38351 | .33677 | .05 | 12 | 20 | |
| naphthalene | 100 | 66.411 | .05 | 34 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .3733 | .05 | 28 | 20 | F |
| dibromofluoromethane | .22479 | .23581 | .05 | -5 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .21198 | .05 | -4 | 20 | |
| toluene-d8 | 1.2342 | 1.2928 | .05 | -5 | 20 | |
| 4-bromofluorobenzene | .76826 | .67753 | .05 | 12 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 28-DEC-2010  Time: 09:04

Lab File ID: 1228A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .3207 | .1 | 5 | 20 | |
| chloromethane | .4498 | .44393 | .1 | 1 | 20 | |
| vinyl chloride | .32842 | .35562 | .1 | -8 | 20 | |
| bromomethane | .2618 | .23421 | .1 | 11 | 20 | |
| chloroethane | .26039 | .26256 | .1 | -1 | 20 | |
| trichlorofluoromethane | .53057 | .59503 | .1 | -12 | 20 | |
| ethyl ether | .11539 | .10704 | .05 | 7 | 20 | |
| acetone | .04052 | .04429 | .1 | -9 | 20 | F |
| 1,1,-dichloroethene | .28629 | .26826 | .1 | 6 | 20 | |
| methylene chloride | .30757 | .31374 | .1 | -2 | 20 | |
| carbon disulfide | .78949 | .60412 | .1 | 23 | 20 | F |
| methyl tert butyl ether | .38634 | .3786 | .1 | 2 | 20 | |
| trans-1,2-dichloroethene | .32749 | .29735 | .1 | 9 | 20 | |
| Diisopropyl Ether | .8809 | .9361 | .05 | -6 | 20 | |
| 1,1-dichloroethane | .59499 | .57141 | .2 | 4 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .56919 | .05 | -3 | 20 | |
| 2-butanone | .05397 | .05426 | .1 | -1 | 20 | F |
| 2,2-dichloropropane | .3505 | .34694 | .05 | 1 | 20 | |
| cis-1,2-dichloroethene | .35294 | .34084 | .1 | 3 | 20 | |
| chloroform | .55513 | .54896 | .2 | 1 | 20 | |
| bromochloromethane | .13022 | .12784 | .05 | 2 | 20 | |
| tetrahydrofuran | .03742 | .03533 | .05 | 6 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .4283 | .1 | 5 | 20 | |
| 1,1-dichloropropene | .44371 | .43302 | .05 | 2 | 20 | |
| carbontetrachloride | .3695 | .34597 | .1 | 6 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .4052 | .05 | -13 | 20 | |
| 1,2-dichloroethane | .32236 | .33277 | .1 | -3 | 20 | |
| benzene | 1.3755 | 1.3328 | .5 | 3 | 20 | |
| trichloroethene | .35538 | .323 | .2 | 9 | 20 | |
| 1,2-dichloropropane | .29749 | .2987 | .1 | 0 | 20 | |
| bromodichloromethane | .31579 | .2945 | .2 | 7 | 20 | |
| 1,4-dioxane | .00101 | .00101 | .05 | 1 | 20 | F |
| dibromomethane | .1201 | .12597 | .05 | -5 | 20 | |
| 4-methyl-2-pentanone | .04053 | .03827 | .1 | 6 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .32571 | .2 | 7 | 20 | |
| toluene | 1.1592 | 1.0867 | .4 | 6 | 20 | |
| trans-1,3-dichloropropene | 100 | 97.045 | .1 | 3 | 20 | |
| 1,1,2-trichloroethane | .18721 | .19286 | .1 | -3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020279

Instrument ID: Quimby.i  Calibration Date: 28-DEC-2010  Time: 09:04

Lab File ID: 1228A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .09719 | .09499 | .1 | 2 | 20 | F |
| 1,3-dichloropropane | .40365 | .40624 | .05 | -1 | 20 | |
| tetrachloroethene | .52863 | .52004 | .2 | 2 | 20 | |
| chlorodibromomethane | .23194 | .20735 | .1 | 11 | 20 | |
| 1,2-dibromoethane | .20222 | .19447 | .1 | 4 | 20 | |
| chlorobenzene | 1.2741 | 1.2002 | .5 | 6 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .33014 | .05 | 1 | 20 | |
| ethyl benzene | 2.2828 | 2.2844 | .1 | 0 | 20 | |
| p/m xylene | .92639 | .93349 | .1 | -1 | 20 | |
| o xylene | .88623 | .88665 | .3 | 0 | 20 | |
| styrene | 1.3904 | 1.4189 | .31 | -2 | 20 | |
| isopropylbenzene | 2.4070 | 2.3351 | .1 | 3 | 20 | |
| bromoform | 100 | 92.155 | .1 | 8 | 20 | |
| 1,1,2,2,-tetrachloroethane | .39202 | .3569 | .3 | 9 | 20 | |
| 1,2,3-trichloropropane | .3082 | .2813 | .05 | 9 | 20 | |
| n-propylbenzene | 4.4117 | 4.2767 | .05 | 3 | 20 | |
| bromobenzene | .84912 | .80666 | .05 | 5 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.9711 | .05 | 4 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.8663 | .05 | 3 | 20 | |
| 4-chorotoluene | 2.6913 | 2.6465 | .05 | 2 | 20 | |
| tert-butylbenzene | 2.6420 | 2.4950 | .05 | 6 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 3.0720 | .05 | 0 | 20 | |
| sec-butylbenzene | 3.8323 | 3.6983 | .05 | 3 | 20 | |
| p-isopropyltoluene | 3.0348 | 3.0393 | .05 | 0 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6309 | .6 | 7 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6268 | .5 | 5 | 20 | |
| n-butylbenzene | 3.0901 | 3.1361 | .05 | -1 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.3954 | .4 | 5 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03305 | .05 | 22 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .58621 | .2 | 16 | 20 | |
| hexachlorobutadiene | .38351 | .33884 | .05 | 12 | 20 | |
| naphthalene | 100 | 79.022 | .05 | 21 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .42021 | .05 | 19 | 20 | |
| dibromofluoromethane | .22479 | .22356 | .05 | 1 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .20727 | .05 | -2 | 20 | |
| toluene-d8 | 1.2342 | 1.2286 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | .76826 | .75531 | .05 | 2 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1020362 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 01/03/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020362
**Report Date:** 01/03/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1020362-01 | APS-128-63.8-20101220-01 | WAYLAND, MA | 12/20/10 16:04 |
| L1020362-02 | APS-129-63.8-20101220-01 | WAYLAND, MA | 12/20/10 16:07 |
| L1020362-03 | APS-128-70.6-20101220-01 | WAYLAND, MA | 12/20/10 16:55 |
| L1020362-04 | EB-04-20101221-01 | WAYLAND, MA | 12/21/10 08:20 |
| L1020362-05 | EB-03-20101221-01 | WAYLAND, MA | 12/21/10 08:30 |
| L1020362-06 | APS-130-18.0-20101221-01 | WAYLAND, MA | 12/21/10 10:12 |
| L1020362-07 | APS-131-18.2-20101221-01 | WAYLAND, MA | 12/21/10 10:37 |
| L1020362-08 | APS-130-23.1-20101221-01 | WAYLAND, MA | 12/21/10 10:40 |
| L1020362-09 | APS-129-66.8-20101220-01 | WAYLAND, MA | 12/20/10 17:02 |
| L1020362-10 | APS-130-28.2-20101221-01 | WAYLAND, MA | 12/21/10 11:13 |
| L1020362-11 | APS-131-23.1-20101221-01 | WAYLAND, MA | 12/21/10 11:10 |
| L1020362-12 | APS-130-33.2-20101221-01 | WAYLAND, MA | 12/21/10 11:36 |
| L1020362-13 | APS-131-28.2-20101221-01 | WAYLAND, MA | 12/21/10 11:38 |
| L1020362-14 | APS-130-38.2-20101221-01 | WAYLAND, MA | 12/21/10 12:05 |
| L1020362-15 | APS-131-33.2-20101221-01 | WAYLAND, MA | 12/21/10 12:12 |
| L1020362-16 | APS-130-43.2-20101221-01 | WAYLAND, MA | 12/21/10 12:48 |
| L1020362-17 | APS-131-38.3-20101221-01 | WAYLAND, MA | 12/21/10 12:52 |
| L1020362-18 | APS-130-48.2-20101221-01 | WAYLAND, MA | 12/21/10 13:20 |
| L1020362-19 | APS-131-43.3-20101221-01 | WAYLAND, MA | 12/21/10 13:39 |
| L1020362-20 | APS-130-53.1-20101221-01 | WAYLAND, MA | 12/21/10 13:50 |
| L1020362-21 | APS-130-58.2-20101221-01 | WAYLAND, MA | 12/21/10 14:22 |
| L1020362-22 | APS-131-48.2-20101221-01 | WAYLAND, MA | 12/21/10 14:19 |
| L1020362-23 | APS-130-63.1-20101221-01 | WAYLAND, MA | 12/21/10 14:57 |
| L1020362-24 | APS-131-53.2-20101221-01 | WAYLAND, MA | 12/21/10 15:01 |
| L1020362-25 | APS-130-68.2-20101221-01 | WAYLAND, MA | 12/21/10 15:46 |
| L1020362-26 | APS-131-58.2-20101221-01 | WAYLAND, MA | 12/21/10 15:53 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362
**Project Number:** 0114119 **Report Date:** 01/03/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

L1020362-04: The Equipment Blank has results for Carbon disulfide and 2-Butanone present above the reporting limit. The sample vials were verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

In reference to question G:

L1020362-01 through -26: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG449881-1/-2 LCS/LCSD recoveries, associated with L1020362-01, -02, and -03, are outside the acceptance criteria for two compounds; however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are

**Case Narrative (continued)**

considered to have a potentially low bias for Carbon disulfide (LCS at 68%) and a potentially high bias for 1,4-Dioxane (142%/148%). In addition, the associated LCS/LCSD RPD is above the acceptance criteria for Carbon disulfide (23%).

The WG449881-2 LCSD recovery, associated with L1020362-01, -02, and -03, is below the individual acceptance criteria for Naphthalene (69%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG449881-1/-2 LCS/LCSD RPDs, associated with L1020362-01, -02, and -03, are above the acceptance criteria for sec-Butylbenzene (21%) and Hexachlorobutadiene (21%); however, the individual LCS/LCSD recoveries are within method limits.

The WG449944-1/-2 LCS/LCSD recoveries, associated with L1020362-04 through -20, are outside the individual acceptance criteria for several compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for 1,1,2,2-Tetrachloroethane (132%/139%),1,2,3-Trichloropropane (LCSD at 139%), and 2-Hexanone (LCSD at 132%); and a potentially low bias for Hexachlorobutadiene (LCSD at 67%).

The WG449944-1/-2 LCS/LCSD recoveries, associated with L1020362-04 through -20, are below the acceptance criteria for Bromomethane (LCS at 68%) and Dichlorodifluoromethane (45%/43%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG449947-1/-2 LCS/LCSD recoveries, associated with L1020362-21 through -26, are below the acceptance criteria for Carbon disulfide (65%/69%) and 1,2-Dibromo-3-chloropropane (LCS at 59%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds. In addition, the associated LCS/LCSD RPD is above the acceptance criteria for 1,2-Dibromo-3-chloropropane (24%).

The WG449947-1/-2 LCS/LCSD recoveries, associated with L1020362-21 through -26, are below the individual acceptance criteria for Naphthalene (62%/68%), 1,2,3-Trichlorobenzene (LCS at 67%), and 1,2,4-

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362
**Project Number:** 0114119 **Report Date:** 01/03/11

**Case Narrative (continued)**

Trichlorobenzene (LCS at 69%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.
The initial calibration, associated with L1020362-01, -02, and -03, did not meet the method required minimum response factor for Acetone (0.0802) and 1,4-Dioxane (0.00214).
The initial calibration, associated with L1020362-04 through -20, did not meet the method required average response factor for Acetone (0.04619), 2-Butanone (0.05688), and 1,4-Dioxane (0.00147).
The initial calibration, associated with L1020362-21 through -26, did not meet the method required minimum response factor for Acetone (0.0405), 2-Butanone (0.0540), 4-Methyl-2-pentanone (0.0405), Tetrahydrofuran (0.0374), 2-Hexanone (0.0972), 1,2-Dibromo-3-chloropropane (0.0423), and 1,4-Dioxane (0.00101); and utilized a quadratic fit for trans-1,3-Dichloropropene, Bromoform, and Naphthalene.
The continuing calibration standards, associated with L1020362-01 through -26, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Lisa Westerlind

Title: Technical Director/Representative Date: 01/03/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-01 | Date Collected: | 12/20/10 16:04 |
| Client ID: | APS-128-63.8-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 20:54 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 21 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-01 Date Collected: 12/20/10 16:04

Client ID: APS-128-63.8-20101220-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 3.6 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-01 | Date Collected: | 12/20/10 16:04 |
| Client ID: | APS-128-63.8-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-02 | Date Collected: | 12/20/10 16:07 |
| Client ID: | APS-129-63.8-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 21:26 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 25 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-02 Date Collected: 12/20/10 16:07

Client ID: APS-129-63.8-20101220-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 3.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-02 | Date Collected: | 12/20/10 16:07 |
| Client ID: | APS-129-63.8-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 93 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-03 | Date Collected: | 12/20/10 16:55 |
| Client ID: | APS-128-70.6-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 21:58 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 3.1 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 7.7 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 91 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-03 Date Collected: 12/20/10 16:55

Client ID: APS-128-70.6-20101220-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.9 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-03 | Date Collected: | 12/20/10 16:55 |
| Client ID: | APS-128-70.6-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-04 | Date Collected: | 12/21/10 08:20 |
| Client ID: | EB-04-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 14:21 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-04 Date Collected: 12/21/10 08:20

Client ID: EB-04-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 3.5 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | 10 | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-04 | Date Collected: | 12/21/10 08:20 |
| Client ID: | EB-04-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 125 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-05 | Date Collected: | 12/21/10 08:30 |
| Client ID: | EB-03-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 14:55 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-05 Date Collected: 12/21/10 08:30

Client ID: EB-03-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-05 | Date Collected: | 12/21/10 08:30 |
| Client ID: | EB-03-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 108 | | 70-130 |
| 4-Bromofluorobenzene | 124 | | 70-130 |
| Dibromofluoromethane | 92 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-06 | Date Collected: | 12/21/10 10:12 |
| Client ID: | APS-130-18.0-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 15:29 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-06 Date Collected: 12/21/10 10:12

Client ID: APS-130-18.0-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-06 | Date Collected: | 12/21/10 10:12 |
| Client ID: | APS-130-18.0-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | | 70-130 |
| Toluene-d8 | 107 | | 70-130 |
| 4-Bromofluorobenzene | 128 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-07 | Date Collected: | 12/21/10 10:37 |
| Client ID: | APS-131-18.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 16:03 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-07 Date Collected: 12/21/10 10:37

Client ID: APS-131-18.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-07 | Date Collected: | 12/21/10 10:37 |
| Client ID: | APS-131-18.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 110 | | 70-130 |
| 4-Bromofluorobenzene | 126 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-08 | Date Collected: | 12/21/10 10:40 |
| Client ID: | APS-130-23.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 16:37 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-08 Date Collected: 12/21/10 10:40

Client ID: APS-130-23.1-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-08 | Date Collected: | 12/21/10 10:40 |
| Client ID: | APS-130-23.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 107 | | 70-130 |
| 4-Bromofluorobenzene | 128 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-09 | Date Collected: | 12/20/10 17:02 |
| Client ID: | APS-129-66.8-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 17:10 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 26 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-09 Date Collected: 12/20/10 17:02

Client ID: APS-129-66.8-20101220-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-09 | Date Collected: | 12/20/10 17:02 |
| Client ID: | APS-129-66.8-20101220-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 111 | | 70-130 |
| 4-Bromofluorobenzene | 126 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-10 | Date Collected: | 12/21/10 11:13 |
| Client ID: | APS-130-28.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 17:44 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-10 Date Collected: 12/21/10 11:13

Client ID: APS-130-28.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-10 | Date Collected: | 12/21/10 11:13 |
| Client ID: | APS-130-28.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | | 70-130 |
| Toluene-d8 | 108 | | 70-130 |
| 4-Bromofluorobenzene | 127 | | 70-130 |
| Dibromofluoromethane | 90 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-11 | Date Collected: | 12/21/10 11:10 |
| Client ID: | APS-131-23.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 18:17 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-11 Date Collected: 12/21/10 11:10

Client ID: APS-131-23.1-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-11 | Date Collected: | 12/21/10 11:10 |
| Client ID: | APS-131-23.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 108 | | 70-130 |
| 4-Bromofluorobenzene | 128 | | 70-130 |
| Dibromofluoromethane | 91 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-12 | Date Collected: | 12/21/10 11:36 |
| Client ID: | APS-130-33.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 18:50 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.1 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-12 Date Collected: 12/21/10 11:36

Client ID: APS-130-33.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-12 | Date Collected: | 12/21/10 11:36 |
| Client ID: | APS-130-33.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | | 70-130 |
| Toluene-d8 | 110 | | 70-130 |
| 4-Bromofluorobenzene | 127 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-13 | Date Collected: | 12/21/10 11:38 |
| Client ID: | APS-131-28.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 19:24 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-13 Date Collected: 12/21/10 11:38

Client ID: APS-131-28.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-13 | Date Collected: | 12/21/10 11:38 |
| Client ID: | APS-131-28.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | | 70-130 |
| Toluene-d8 | 110 | | 70-130 |
| 4-Bromofluorobenzene | 128 | | 70-130 |
| Dibromofluoromethane | 92 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-14 | Date Collected: | 12/21/10 12:05 |
| Client ID: | APS-130-38.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 19:58 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.1 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-14 Date Collected: 12/21/10 12:05

Client ID: APS-130-38.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-14 | Date Collected: | 12/21/10 12:05 |
| Client ID: | APS-130-38.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 125 | | 70-130 |
| Dibromofluoromethane | 92 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-15 | Date Collected: | 12/21/10 12:12 |
| Client ID: | APS-131-33.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 20:31 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-15 Date Collected: 12/21/10 12:12

Client ID: APS-131-33.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-15 | Date Collected: | 12/21/10 12:12 |
| Client ID: | APS-131-33.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 128 | | 70-130 |
| Dibromofluoromethane | 93 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-16 | Date Collected: | 12/21/10 12:48 |
| Client ID: | APS-130-43.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 21:05 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-16 Date Collected: 12/21/10 12:48

Client ID: APS-130-43.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-16 | Date Collected: | 12/21/10 12:48 |
| Client ID: | APS-130-43.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 128 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-17 | Date Collected: | 12/21/10 12:52 |
| Client ID: | APS-131-38.3-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 21:39 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-17 Date Collected: 12/21/10 12:52

Client ID: APS-131-38.3-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-17 | Date Collected: | 12/21/10 12:52 |
| Client ID: | APS-131-38.3-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 130 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-18 | Date Collected: | 12/21/10 13:20 |
| Client ID: | APS-130-48.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 22:12 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 2.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-18 Date Collected: 12/21/10 13:20

Client ID: APS-130-48.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-18 | Date Collected: | 12/21/10 13:20 |
| Client ID: | APS-130-48.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 124 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 126 | | 70-130 |
| Dibromofluoromethane | 93 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-19 | Date Collected: | 12/21/10 13:39 |
| Client ID: | APS-131-43.3-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 22:45 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-19 Date Collected: 12/21/10 13:39

Client ID: APS-131-43.3-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-19 | Date Collected: | 12/21/10 13:39 |
| Client ID: | APS-131-43.3-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 110 | | 70-130 |
| 4-Bromofluorobenzene | 125 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-20 | Date Collected: | 12/21/10 13:50 |
| Client ID: | APS-130-53.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 23:19 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-20 Date Collected: 12/21/10 13:50

Client ID: APS-130-53.1-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-20 | Date Collected: | 12/21/10 13:50 |
| Client ID: | APS-130-53.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 109 | | 70-130 |
| 4-Bromofluorobenzene | 129 | | 70-130 |
| Dibromofluoromethane | 91 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-21 | Date Collected: | 12/21/10 14:22 |
| Client ID: | APS-130-58.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 13:25 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 5.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-21 Date Collected: 12/21/10 14:22

Client ID: APS-130-58.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-21 | Date Collected: | 12/21/10 14:22 |
| Client ID: | APS-130-58.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 116 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-22 | Date Collected: | 12/21/10 14:19 |
| Client ID: | APS-131-48.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 22:31 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-22 Date Collected: 12/21/10 14:19

Client ID: APS-131-48.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-22 | Date Collected: | 12/21/10 14:19 |
| Client ID: | APS-131-48.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-23 | Date Collected: | 12/21/10 14:57 |
| Client ID: | APS-130-63.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 23:03 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.6 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 48 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-23 Date Collected: 12/21/10 14:57

Client ID: APS-130-63.1-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-23 | Date Collected: | 12/21/10 14:57 |
| Client ID: | APS-130-63.1-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 112 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-24 | Date Collected: | 12/21/10 15:01 |
| Client ID: | APS-131-53.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/30/10 23:34 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-24 Date Collected: 12/21/10 15:01

Client ID: APS-131-53.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-24 | Date Collected: | 12/21/10 15:01 |
| Client ID: | APS-131-53.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 112 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-25 | Date Collected: | 12/21/10 15:46 |
| Client ID: | APS-130-68.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 00:06 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 66 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-25 Date Collected: 12/21/10 15:46

Client ID: APS-130-68.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 8.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-25 | Date Collected: | 12/21/10 15:46 |
| Client ID: | APS-130-68.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 112 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-26 | Date Collected: | 12/21/10 15:53 |
| Client ID: | APS-131-58.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 00:37 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 5.5 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020362-26 Date Collected: 12/21/10 15:53

Client ID: APS-131-58.2-20101221-01 Date Received: 12/21/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020362-26 | Date Collected: | 12/21/10 15:53 |
| Client ID: | APS-131-58.2-20101221-01 | Date Received: | 12/21/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 117 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 116 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 12:18
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG449881-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 12:18
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG449881-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 12:18
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG449881-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 92 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 13:47
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-20 Batch: WG449944-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 13:47
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-20 Batch: WG449944-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 13:47
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-20 Batch: WG449944-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 114 | | 70-130 |
| Toluene-d8 | 107 | | 70-130 |
| 4-Bromofluorobenzene | 125 | | 70-130 |
| D bromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 22:00
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 21-26 Batch: WG449947-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 22:00
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 21-26 Batch: WG449947-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/30/10 22:00
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 21-26 Batch: WG449947-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| D bromofluoromethane | 109 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG449881-1 WG449881-2 | | | | | | | | |
| Methylene chloride | 102 | | 107 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethane | 95 | | 107 | | 70-130 | 12 | | 20 |
| Chloroform | 98 | | 110 | | 70-130 | 12 | | 20 |
| Carbon tetrachloride | 95 | | 105 | | 70-130 | 10 | | 20 |
| 1,2-Dichloropropane | 95 | | 100 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 85 | | 100 | | 70-130 | 16 | | 20 |
| Chlorobenzene | 87 | | 96 | | 70-130 | 10 | | 20 |
| Trichlorofluoromethane | 108 | | 125 | | 70-130 | 15 | | 20 |
| 1,2-Dichloroethane | 102 | | 106 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 92 | | 106 | | 70-130 | 14 | | 20 |
| Bromodichloromethane | 98 | | 109 | | 70-130 | 11 | | 20 |
| trans-1,3-Dichloropropene | 90 | | 89 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 91 | | 104 | | 70-130 | 13 | | 20 |
| Bromoform | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 86 | | 70-130 | 6 | | 20 |
| Benzene | 96 | | 106 | | 70-130 | 10 | | 20 |
| Toluene | 87 | | 99 | | 70-130 | 13 | | 20 |
| Ethylbenzene | 93 | | 107 | | 70-130 | 14 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG449881-1 WG449881-2 | | | | | | | | |
| Chloromethane | 91 | | 103 | | 70-130 | 12 | | 20 |
| Bromomethane | 91 | | 97 | | 70-130 | 6 | | 20 |
| Vinyl chloride | 86 | | 99 | | 70-130 | 14 | | 20 |
| Chloroethane | 96 | | 109 | | 70-130 | 13 | | 20 |
| 1,1-Dichloroethene | 94 | | 109 | | 70-130 | 15 | | 20 |
| trans-1,2-Dichloroethene | 86 | | 100 | | 70-130 | 15 | | 20 |
| Trichloroethene | 90 | | 108 | | 70-130 | 18 | | 20 |
| 1,2-Dichlorobenzene | 89 | | 93 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 90 | | 99 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 96 | | 70-130 | 8 | | 20 |
| Methyl tert butyl ether | 94 | | 93 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 96 | | 108 | | 70-130 | 12 | | 20 |
| o-Xylene | 98 | | 111 | | 70-130 | 12 | | 20 |
| cis-1,2-Dichloroethene | 96 | | 108 | | 70-130 | 12 | | 20 |
| Dibromomethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 88 | | 70-130 | 7 | | 20 |
| Styrene | 100 | | 111 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 79 | | 88 | | 70-130 | 11 | | 20 |
| Acetone | 106 | | 104 | | 70-130 | 2 | | 20 |
| Carbon disulfide | **68** | Q | 86 | | 70-130 | **23** | Q | 20 |
| 2-Butanone | 109 | | 101 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG449881-1 WG449881-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 109 | | 93 | | 70-130 | 16 | | 20 |
| 2-Hexanone | 89 | | 81 | | 70-130 | 9 | | 20 |
| Bromochloromethane | 102 | | 104 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 103 | | 85 | | 70-130 | 19 | | 20 |
| 2,2-Dichloropropane | 93 | | 108 | | 70-130 | 15 | | 20 |
| 1,2-Dibromoethane | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 93 | | 99 | | 70-130 | 6 | | 20 |
| Bromobenzene | 88 | | 94 | | 70-130 | 7 | | 20 |
| n-Butylbenzene | 88 | | 107 | | 70-130 | 19 | | 20 |
| sec-Butylbenzene | 83 | | 102 | | 70-130 | **21** | Q | 20 |
| tert-Butylbenzene | 82 | | 99 | | 70-130 | 19 | | 20 |
| o-Chlorotoluene | 92 | | 103 | | 70-130 | 11 | | 20 |
| p-Chlorotoluene | 90 | | 100 | | 70-130 | 11 | | 20 |
| 1,2-Dibromo-3-chloropropane | 89 | | 86 | | 70-130 | 3 | | 20 |
| Hexachlorobutadiene | 78 | | 96 | | 70-130 | **21** | Q | 20 |
| Isopropylbenzene | 90 | | 106 | | 70-130 | 16 | | 20 |
| p-Isopropyltoluene | 87 | | 106 | | 70-130 | 20 | | 20 |
| Naphthalene | 74 | | **69** | Q | 70-130 | 7 | | 20 |
| n-Propylbenzene | 89 | | 104 | | 70-130 | 16 | | 20 |
| 1,2,3-Trichlorobenzene | 80 | | 80 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG449881-1 WG449881-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 84 | | 85 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 86 | | 99 | | 70-130 | 14 | | 20 |
| 1,2,4-Trimethylbenzene | 93 | | 106 | | 70-130 | 13 | | 20 |
| Ethyl ether | 94 | | 98 | | 70-130 | 4 | | 20 |
| Isopropyl Ether | 103 | | 110 | | 70-130 | 7 | | 20 |
| Ethyl-Tert-Butyl-Ether | 102 | | 104 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | **142** | Q | **148** | Q | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 100 | | 70-130 |
| Toluene-d8 | 94 | | 93 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 96 | | 70-130 |
| Dibromofluoromethane | 105 | | 106 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-20 Batch: WG449944-1 WG449944-2 | | | | | | | | |
| Methylene chloride | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 112 | | 110 | | 70-130 | 2 | | 20 |
| Chloroform | 108 | | 106 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 97 | | 98 | | 70-130 | 1 | | 20 |
| 1,2-Dichloropropane | 116 | | 117 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 87 | | 92 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 110 | | 113 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 82 | | 80 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 117 | | 114 | | 70-130 | 3 | | 20 |
| 1,2-Dichloroethane | 113 | | 114 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 97 | | 100 | | 70-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 97 | | 102 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 93 | | 97 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 101 | | 99 | | 70-130 | 2 | | 20 |
| Bromoform | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | **132** | Q | **139** | Q | 70-130 | 5 | | 20 |
| Benzene | 104 | | 102 | | 70-130 | 2 | | 20 |
| Toluene | 103 | | 100 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 108 | | 104 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-20 Batch: WG449944-1 WG449944-2 | | | | | | | | |
| Chloromethane | 95 | | 90 | | 70-130 | 5 | | 20 |
| Bromomethane | **68** | Q | 75 | | 70-130 | 10 | | 20 |
| Vinyl chloride | 104 | | 99 | | 70-130 | 5 | | 20 |
| Chloroethane | 111 | | 105 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 100 | | 94 | | 70-130 | 6 | | 20 |
| trans-1,2-Dichloroethene | 91 | | 88 | | 70-130 | 3 | | 20 |
| Trichloroethene | 92 | | 90 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 104 | | 102 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 101 | | 99 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 85 | | 90 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 98 | | 95 | | 70-130 | 3 | | 20 |
| o-Xylene | 93 | | 92 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Dibromomethane | 101 | | 104 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 128 | | **139** | Q | 70-130 | 8 | | 20 |
| Styrene | 85 | | 82 | | 70-130 | 4 | | 20 |
| Dichlorodifluoromethane | **45** | Q | **43** | Q | 70-130 | 5 | | 20 |
| Acetone | 103 | | 114 | | 70-130 | 10 | | 20 |
| Carbon disulfide | 84 | | 79 | | 70-130 | 6 | | 20 |
| 2-Butanone | 119 | | 125 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-20 Batch: WG449944-1 WG449944-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 109 | | 120 | | 70-130 | 10 | | 20 |
| 2-Hexanone | 119 | | **132** | Q | 70-130 | 10 | | 20 |
| Bromochloromethane | 90 | | 90 | | 70-130 | 0 | | 20 |
| Tetrahydrofuran | 89 | | 101 | | 70-130 | 13 | | 20 |
| 2,2-Dichloropropane | 109 | | 113 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 92 | | 99 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 110 | | 114 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 96 | | 97 | | 70-130 | 1 | | 20 |
| Bromobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 121 | | 115 | | 70-130 | 5 | | 20 |
| sec-Butylbenzene | 117 | | 112 | | 70-130 | 4 | | 20 |
| tert-Butylbenzene | 110 | | 106 | | 70-130 | 4 | | 20 |
| o-Chlorotoluene | 128 | | 124 | | 70-130 | 3 | | 20 |
| p-Chlorotoluene | 129 | | 126 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 104 | | 115 | | 70-130 | 10 | | 20 |
| Hexachlorobutadiene | 72 | | **67** | Q | 70-130 | 7 | | 20 |
| Isopropylbenzene | 99 | | 96 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 116 | | 111 | | 70-130 | 4 | | 20 |
| Naphthalene | 99 | | 106 | | 70-130 | 7 | | 20 |
| n-Propylbenzene | 126 | | 121 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 84 | | 86 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-20 Batch: WG449944-1 WG449944-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 112 | | 108 | | 70-130 | 4 | | 20 |
| 1,2,4-Trimethylbenzene | 118 | | 115 | | 70-130 | 3 | | 20 |
| Ethyl ether | 97 | | 98 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 103 | | 107 | | 70-130 | 4 | | 20 |
| Ethyl-Tert-Butyl-Ether | 104 | | 108 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 98 | | 102 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 96 | | 103 | | 70-130 | 7 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 114 | | 70-130 |
| Toluene-d8 | 106 | | 107 | | 70-130 |
| 4-Bromofluorobenzene | 121 | | 123 | | 70-130 |
| Dibromofluoromethane | 98 | | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-26 Batch: WG449947-1 WG449947-2 | | | | | | | | |
| Methylene chloride | 101 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 98 | | 97 | | 70-130 | 1 | | 20 |
| Chloroform | 98 | | 98 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,2-Dichloropropane | 99 | | 95 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 84 | | 87 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 104 | | 101 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 105 | | 100 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 120 | | 119 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromodichloromethane | 83 | | 88 | | 70-130 | 6 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 90 | | 70-130 | 7 | | 20 |
| cis-1,3-Dichloropropene | 75 | | 80 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromoform | 75 | | 82 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 89 | | 93 | | 70-130 | 4 | | 20 |
| Benzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| Toluene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 102 | | 100 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-26 Batch: WG449947-1 WG449947-2 | | | | | | | | |
| Chloromethane | 110 | | 106 | | 70-130 | 4 | | 20 |
| Bromomethane | 81 | | 85 | | 70-130 | 5 | | 20 |
| Vinyl chloride | 121 | | 118 | | 70-130 | 3 | | 20 |
| Chloroethane | 114 | | 107 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 92 | | 93 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Trichloroethene | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 95 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 80 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 107 | | 103 | | 70-130 | 4 | | 20 |
| o-Xylene | 103 | | 102 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Dibromomethane | 100 | | 103 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 90 | | 88 | | 70-130 | 2 | | 20 |
| Styrene | 103 | | 101 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 92 | | 86 | | 70-130 | 7 | | 20 |
| Acetone | 99 | | 102 | | 70-130 | 3 | | 20 |
| Carbon disulfide | **65** | Q | **69** | Q | 70-130 | 6 | | 20 |
| 2-Butanone | 90 | | 97 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-26 Batch: WG449947-1 WG449947-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 81 | | 86 | | 70-130 | 6 | | 20 |
| 2-Hexanone | 89 | | 91 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 98 | | 102 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 80 | | 79 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 86 | | 92 | | 70-130 | 7 | | 20 |
| 1,2-Dibromoethane | 93 | | 96 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 98 | | 98 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| Bromobenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| n-Butylbenzene | 93 | | 91 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 90 | | 87 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 88 | | 86 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 93 | | 91 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | **59** | Q | 75 | | 70-130 | **24** | Q | 20 |
| Hexachlorobutadiene | 83 | | 83 | | 70-130 | 0 | | 20 |
| Isopropylbenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 95 | | 92 | | 70-130 | 3 | | 20 |
| Naphthalene | **62** | Q | **68** | Q | 70-130 | 9 | | 20 |
| n-Propylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | **67** | Q | 73 | | 70-130 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020362
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-26 Batch: WG449947-1 WG449947-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | **69** | Q | 74 | | 70-130 | 7 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Ethyl ether | 87 | | 92 | | 70-130 | 6 | | 20 |
| Isopropyl Ether | 96 | | 97 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 87 | | 86 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | 110 | | 112 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 105 | | 70-130 |
| Toluene-d8 | 106 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 88 | | 70-130 |
| Dibromofluoromethane | 104 | | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020362
**Report Date:** 01/03/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020362-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-08B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-14A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020362
**Report Date:** 01/03/11

## Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020362-14B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-15A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-15B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-16A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-16B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-17A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-17B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-18A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-18B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-19A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-19B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-20A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-20B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-21A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-21B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-22A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-22B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-23A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-23B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-24A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-24B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-25A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-25B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-26A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1020362-26B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

## Container Comments

L1020362-22A

L1020362-23A

L1020362-24A

L1020362-25A

L1020362-26A

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1020362 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1020362 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1020362
**Project Number:** 0114119 **Report Date:** 01/03/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 12/21/10

ALPHA Job #: L1020362

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St.
Boston MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon WAYLAND
Project Location: ~~Boston~~ ALSO WAYLAND MA
Project #: 0114119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/29 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20362.1 | APS-129-63.8-20101220-01 | 2010/12/20 | 1604 | GW | LJM | 2 | | |
| 2 | APS-129-63.8-20101220-01 | ↓ | 1607 | ↓ | ↓ | ↓ | | |
| 3 | APS-128-70.6-20101220-01 | ↓ | 1655 | ↓ | ↓ | ↓ | | |
| 4 | EB-04-20101221-01 | 2010/12/21 | 0820 | ↓ | ↓ | ↓ | | |
| 5 | EB-03-20101221-01 | 2010/12/21 | 0830 | ↓ | ↓ | ↓ | | |
| 6 | APS-130-18.0-20101221-01 | 2010/12/21 | 1012 | ↓ | ↓ | ↓ | | |
| 7 | APS-131-18.2-20101221-01 | 2010/12/21 | 1037 | ↓ | ↓ | ↓ | | |
| 8 | APS-130-23.1-20101221-01 | 2010/12/21 | 1040 | ↓ | ↓ | ↓ | | |
| 9 | APS-129-66.8-20101220-01 | 2010/12/20 | 1702 | ↓ | ↓ | ↓ | | |
| 10 | APS-130-28.2-20101221-01 | 2010/12/21 | 1113 | ↓ | ↓ | ↓ | | |

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VIAL | | | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 1605 2010/12/21 | [signature] | 12/21/10 1605 |
| [signature] | 12/21/10 1755 | [signature] | 12/21/10 1755 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:01031110:23

# CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 12/21/10

ALPHA Job #: L1020362

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client:

Address:

Phone:

Fax:

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/29/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: 8260 VOCs

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | 8260 VOCs | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 20362.11 | APS-131-23.1-20101221-01 | 2010/12/20 | 1110 | GW | LSM | 2 | | |
| 12 | APS-130-33.2-20101221-01 | | 1136 | | | | | |
| 13 | APS-131-28.2-20101221-01 | | 1138 | | | | | |
| 14 | APS-130-38.2-20101221-01 | | 1205 | | | | | |
| 15 | APS-131-33.2-20101221-01 | | 1212 | | | | | |
| 16 | APS-130-43.2-20101221-01 | | 1248 | | | | | |
| 17 | APS-131-38.8-20101221-01 | | 1252 | | | | | |
| 18 | APS-130-48.2-20101221-01 | | 1320 | | | | | |
| 19 | APS-131-43.3-20101221-01 | | 1339 | | | | | |
| 20 | APS-130-53.1-20101221-01 | | 1350 | | | | | |

| | |
|---|---|
| Container Type | VOA |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 1605 20101221 | [signature] | 12/21/10 1605 |
| [signature] | 12/21/10 1755 | [signature] | 12/21/10 1755 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 12/21/10

ALPHA Job #: L1020362

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client:

Address:

Phone:

Fax:

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager:

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/28/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20362.21 | APS-130-58.2-20101221-01 | 2010/12/21 | 1422 | GW | LJM | 2 | | |
| 22 | APS-131-48.2-20101221-01 | | 1419 | | | | | |
| 23 | APS-130-63.1-20101221-01 | | 1457 | | | | | |
| 24 | APS-131-53.2-20101221-01 | | 1501 | | | | | |
| 25 | APS-130-68.2-20101221-01 | | 1546 | | | | | |
| 26 | APS-131-58.2-20101221-01 | | 1553 | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 1605 2010/12/21 | [signature] | 12/21/10 1605 |
| [signature] | 12/21/10 1755 | [signature] | 12/21/10 1755 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:01031110:23

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Jack.i  Calibration Date: 30-DEC-2010  Time: 11:13

Lab File ID: 1230A03  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:25  10:11

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .59257 | .46873 | .1 | 21 | 20 | F |
| chloromethane | .79246 | .71775 | .1 | 9 | 20 | |
| vinyl chloride | .65451 | .56105 | .1 | 14 | 20 | |
| bromomethane | .2802 | .25594 | .1 | 9 | 20 | |
| chloroethane | .26586 | .25554 | .1 | 4 | 20 | |
| trichlorofluoromethane | .64039 | .69378 | .1 | -8 | 20 | |
| ethyl ether | .17865 | .16878 | .05 | 6 | 20 | |
| 1,1,-dichloroethene | .38963 | .36663 | .1 | 6 | 20 | |
| carbon disulfide | 1.0639 | .72839 | .1 | 32 | 20 | F |
| freon-113 | .3896 | .35397 | .1 | 9 | 20 | |
| iodomethane | 100 | 93.861 | .05 | 6 | 20 | |
| acrolien | .00617 | .01347 | .05 | -118 | 20 | F |
| methylene chloride | .64676 | .65872 | .1 | -2 | 20 | |
| acetone | .08018 | .08517 | .1 | -6 | 20 | F |
| trans-1,2-dichloroethene | .65648 | .56243 | .1 | 14 | 20 | |
| methyl acetate | .25047 | .26268 | .1 | -5 | 20 | |
| methyl tert butyl ether | 1.1716 | 1.1061 | .1 | 6 | 20 | |
| hexane | ------ | ------ | .05 | --- | 20 | F |
| acetonitrile | ------ | ------ | .05 | --- | 20 | F |
| tert butyl alcohol | .04185 | .04403 | .05 | -5 | 20 | F |
| Diisopropyl Ether | 1.8059 | 1.8673 | .01 | -3 | 20 | |
| 1,1-dichloroethane | 1.1604 | 1.1057 | .2 | 5 | 20 | |
| Halothane | .4092 | .34059 | .05 | 17 | 20 | |
| acrylonitrile | ------ | ------ | .05 | --- | 20 | F |
| Ethyl-Tert-Butyl-Ether | 1.4236 | 1.4559 | .05 | -2 | 20 | |
| vinyl acetate | .77292 | .71645 | .05 | 7 | 20 | |
| cis-1,2-dichloroethene | .68626 | .65996 | .1 | 4 | 20 | |
| 2,2-dichloropropane | .81224 | .75828 | .05 | 7 | 20 | |
| bromochloromethane | .27984 | .28536 | .05 | -2 | 20 | |
| chloroform | 1.0788 | 1.0523 | .2 | 2 | 20 | |
| carbontetrachloride | .78379 | .74374 | .1 | 5 | 20 | |
| ethyl acetate | .31636 | .30212 | .05 | 5 | 20 | |
| tetrahydrofuran | .114 | .11709 | .05 | -3 | 20 | |
| 1,1,1-trichloroethane | .92031 | .85015 | .1 | 8 | 20 | |
| 1,1-dichloropropene | .92761 | .84781 | .05 | 9 | 20 | |
| 2-butanone | .13125 | .14294 | .1 | -9 | 20 | |
| benzene | 2.7435 | 2.6237 | .5 | 4 | 20 | |
| Tertiary-Amyl Methyl Ether | 1.0980 | 1.2095 | .05 | -10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Jack.i  Calibration Date: 30-DEC-2010  Time: 11:13

Lab File ID: 1230A03  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:25  10:11

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,2-dichloroethane | .62502 | .63963 | .1 | -2 | 20 | |
| heptane | ------ | ------ | .05 | --- | 20 | F |
| trichloroethene | .69092 | .62352 | .2 | 10 | 20 | |
| dibromomethane | .28051 | .29043 | .05 | -4 | 20 | |
| 1,2-dichloropropane | .67196 | .63572 | .1 | 5 | 20 | |
| bromodichloromethane | .78928 | .77742 | .2 | 2 | 20 | |
| 1,4-dioxane | .00214 | .00305 | .05 | -42 | 20 | F |
| n-propyl acetate | ------ | ------ | .05 | --- | 20 | F |
| 2-chloroethylvinyl ether | .26585 | .26032 | .05 | 2 | 20 | |
| cis-1,3-dichloropropene | .89499 | .84499 | .2 | 6 | 20 | |
| toluene | 2.2810 | 1.9743 | .4 | 13 | 20 | |
| tetrachloroethene | .97535 | .826 | .2 | 15 | 20 | |
| 4-methyl-2-pentanone | .11804 | .12845 | .1 | -9 | 20 | |
| trans-1,3-dichloropropene | .88607 | .79443 | .1 | 10 | 20 | |
| 1,1,2-trichloroethane | .48068 | .43337 | .1 | 10 | 20 | |
| chlorodibromomethane | .6257 | .5533 | .1 | 12 | 20 | |
| 1,3-dichloropropane | 1.0091 | .91776 | .05 | 9 | 20 | |
| 1,2-dibromoethane | .52613 | .48234 | .1 | 8 | 20 | |
| 2-hexanone | .24914 | .222 | .1 | 11 | 20 | |
| chlorobenzene | 2.4044 | 2.0868 | .5 | 13 | 20 | |
| ethyl benzene | 4.1069 | 3.8328 | .1 | 7 | 20 | |
| 1,1,1,2-tetrachloroethane | .73548 | .6816 | .05 | 7 | 20 | |
| p/m xylene | 1.5647 | 1.4973 | .1 | 4 | 20 | |
| o xylene | 1.4772 | 1.4484 | .3 | 2 | 20 | |
| bromoform | .61483 | .59056 | .1 | 4 | 20 | |
| styrene | 2.4064 | 2.3993 | .3 | 0 | 20 | |
| isopropylbenzene | 3.8613 | 3.4633 | .1 | 10 | 20 | |
| bromobenzene | 1.7919 | 1.5811 | .05 | 12 | 20 | |
| n-propylbenzene | 8.2501 | 7.3229 | .05 | 11 | 20 | |
| 1,1,2,2,-tetrachloroethane | 1.1598 | 1.0575 | .3 | 9 | 20 | |
| 2-chlorotoluene | 5.6467 | 5.1830 | .05 | 8 | 20 | |
| 1,2,3-trichloropropane | .90634 | .85009 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 5.7107 | 4.8905 | .05 | 14 | 20 | |
| trans-1,4-dichloro-2-butene | .31199 | .28351 | .05 | 9 | 20 | |
| 4-chorotoluene | 5.2359 | 4.7360 | .05 | 10 | 20 | |
| tert-butylbenzene | 4.8401 | 3.9922 | .05 | 18 | 20 | |
| 1,2,4-trimethylbenzene | 5.6215 | 5.2111 | .05 | 7 | 20 | |
| sec-butylbenzene | 6.6993 | 5.5792 | .01 | 17 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Jack.i  Calibration Date: 30-DEC-2010  Time: 11:13

Lab File ID: 1230A03  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:25  10:11

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| p-isopropyltoluene | 5.3807 | 4.6645 | .05 | 13 | 20 | |
| 1,3-dichlorobenzene | 3.3043 | 2.9765 | .6 | 10 | 20 | |
| 1,4-dichlorobenzene | 3.3536 | 2.9819 | .5 | 11 | 20 | |
| n-butylbenzene | 4.5010 | 3.9457 | .05 | 12 | 20 | |
| 1,2-dichlorobenzene | 2.9728 | 2.6594 | .4 | 11 | 20 | |
| 1,2-dibromo-3-chloropropane | .14496 | .12911 | .05 | 11 | 20 | |
| 1,3,5-trichlorobenzene | .71827 | .80342 | .01 | -12 | 30 | |
| 1,2,4-trichlorobenzene | 1.6854 | 1.4114 | .2 | 16 | 20 | |
| hexachlorobutadiene | .70963 | .55316 | .05 | 22 | 20 | F |
| naphthalene | 2.9808 | 2.2060 | .05 | 26 | 20 | F |
| 1,2,3-trichlorobenzene | 1.4212 | 1.1324 | .05 | 20 | 20 | F |
| dibromofluoromethane | .22675 | .23731 | .05 | -5 | 20 | |
| 1,2-dichloroethane-d4 | .21878 | .22089 | .05 | -1 | 20 | |
| toluene-d8 | 1.3004 | 1.2187 | .01 | 6 | 20 | |
| 4-bromofluorobenzene | .88474 | .85922 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Gonzo.i  Calibration Date: 30-DEC-2010  Time: 12:40

Lab File ID: 1230A01  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 09:24  12:47

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .29798 | .134 | .1 | 55 | 20 | F |
| chloromethane | .21354 | .20291 | .1 | 5 | 20 | |
| vinyl chloride | .29565 | .30684 | .1 | -4 | 20 | |
| bromomethane | .121 | .08226 | .1 | 32 | 20 | F |
| chloroethane | .18462 | .20527 | .1 | -11 | 20 | |
| trichlorofluoromethane | .53595 | .62709 | .1 | -17 | 20 | |
| ethyl ether | .13646 | .13183 | .05 | 3 | 20 | |
| acetone | .04619 | .04746 | .1 | -3 | 20 | F |
| 1,1,-dichloroethene | .26712 | .26605 | .1 | 0 | 20 | |
| methylene chloride | .26814 | .26306 | .1 | 2 | 20 | |
| carbon disulfide | .73151 | .61809 | .1 | 16 | 20 | |
| methyl tert butyl ether | 100 | 85.162 | .1 | 15 | 20 | |
| trans-1,2-dichloroethene | .25361 | .22977 | .1 | 9 | 20 | |
| Diisopropyl Ether | 100 | 103 | .05 | -3 | 20 | |
| 1,1-dichloroethane | .46761 | .52536 | .1 | -12 | 20 | |
| Ethyl-Tert-Butyl-Ether | 100 | 104 | .05 | -4 | 20 | |
| 2-butanone | .05688 | .06761 | .1 | -19 | 20 | F |
| 2,2-dichloropropane | 100 | 109 | .05 | -9 | 20 | |
| cis-1,2-dichloroethene | 100 | 95.900 | .1 | 4 | 20 | |
| chloroform | .4722 | .50955 | .2 | -8 | 20 | |
| bromochloromethane | .117 | .10524 | .05 | 10 | 20 | |
| tetrahydrofuran | 100 | 89.232 | .05 | 11 | 20 | |
| 1,1,1-trichloroethane | 100 | 93.415 | .1 | 7 | 20 | |
| 1,1-dichloropropene | 100 | 101 | .05 | -1 | 20 | |
| carbontetrachloride | 100 | 96.746 | .1 | 3 | 20 | |
| Tertiary-Amyl Methyl Ether | 100 | 98.236 | .05 | 2 | 20 | |
| 1,2-dichloroethane | .31641 | .35629 | .1 | -13 | 20 | |
| benzene | 1.0870 | 1.1354 | .5 | -4 | 20 | |
| trichloroethene | .28761 | .26566 | .2 | 8 | 20 | |
| 1,2-dichloropropane | .26333 | .30699 | .1 | -17 | 20 | |
| bromodichloromethane | 100 | 97.249 | .2 | 3 | 20 | |
| 1,4-dioxane | .00147 | .00142 | .05 | 4 | 20 | F |
| dibromomethane | .14782 | .14946 | .05 | -1 | 20 | |
| 4-methyl-2-pentanone | 100 | 109 | .1 | -9 | 20 | |
| cis-1,3-dichloropropene | 100 | 93.013 | .2 | 7 | 20 | |
| toluene | .9876 | 1.0219 | .4 | -3 | 20 | |
| trans-1,3-dichloropropene | 100 | 97.117 | .1 | 3 | 20 | |
| 2-hexanone | 100 | 119 | .1 | -19 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Gonzo.i  Calibration Date: 30-DEC-2010  Time: 12:40

Lab File ID: 1230A01  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 09:24  12:47

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .25243 | .27679 | .1 | -10 | 20 | |
| 1,3-dichloropropane | .48131 | .53201 | .05 | -11 | 20 | |
| tetrachloroethene | .45575 | .3729 | .2 | 18 | 20 | |
| chlorodibromomethane | 100 | 87.087 | .1 | 13 | 20 | |
| 1,2-dibromoethane | .26653 | .24476 | .1 | 8 | 20 | |
| chlorobenzene | 1.0668 | 1.0443 | .5 | 2 | 20 | |
| 1,1,1,2-tetrachloroethane | 100 | 95.648 | .05 | 4 | 20 | |
| ethyl benzene | 100 | 108 | .1 | -8 | 20 | |
| p/m xylene | 200 | 197 | .1 | 2 | 20 | |
| o xylene | 200 | 187 | .3 | 7 | 20 | |
| styrene | 200 | 170 | .3 | 15 | 20 | |
| isopropylbenzene | 100 | 98.702 | .1 | 1 | 20 | |
| bromoform | 100 | 93.691 | .1 | 6 | 20 | |
| 1,1,2,2,-tetrachloroethane | .53072 | .70123 | .3 | -32 | 20 | F |
| 1,2,3-trichloropropane | .41758 | .5336 | .05 | -28 | 20 | F |
| n-propylbenzene | 100 | 126 | .05 | -26 | 20 | F |
| bromobenzene | .88746 | .88869 | .05 | 0 | 20 | |
| 1,3,5-trimethybenzene | 2.7260 | 3.0611 | .05 | -12 | 20 | |
| 2-chlorotoluene | 2.6825 | 3.4225 | .05 | -28 | 20 | F |
| 4-chorotoluene | 2.3889 | 3.0891 | .05 | -29 | 20 | F |
| tert-butylbenzene | 2.0655 | 2.2708 | .05 | -10 | 20 | |
| 1,2,4-trimethylbenzene | 2.6930 | 3.1794 | .05 | -18 | 20 | |
| sec-butylbenzene | 100 | 117 | .05 | -17 | 20 | |
| p-isopropyltoluene | 100 | 116 | .05 | -16 | 20 | |
| 1,3-dichlorobenzene | 1.5516 | 1.6133 | .6 | -4 | 20 | |
| 1,4-dichlorobenzene | 1.6210 | 1.6417 | .5 | -1 | 20 | |
| n-butylbenzene | 100 | 121 | .05 | -21 | 20 | F |
| 1,2-dichlorobenzene | 1.4287 | 1.4242 | .4 | 0 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 104 | .05 | -4 | 20 | |
| 1,2,4-trichlorobenzene | 100 | 97.930 | .2 | 2 | 20 | |
| hexachlorobutadiene | .48465 | .34885 | .05 | 28 | 20 | F |
| naphthalene | 100 | 98.879 | .05 | 1 | 20 | |
| 1,2,3-trichlorobenzene | 100 | 83.890 | .05 | 16 | 20 | |
| dibromofluoromethane | .24372 | .23849 | .05 | 2 | 30 | |
| 1,2-dichloroethane-d4 | .24302 | .27241 | .05 | -12 | 30 | |
| toluene-d8 | 1.3550 | 1.4387 | .05 | -6 | 30 | |
| 4-bromofluorobenzene | .90244 | 1.0956 | .05 | -21 | 30 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Quimby.i  Calibration Date: 30-DEC-2010  Time: 20:57

Lab File ID: 1230N01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .30871 | .1 | 8 | 20 | |
| chloromethane | .4498 | .49255 | .1 | -10 | 20 | |
| vinyl chloride | .32842 | .39729 | .1 | -21 | 20 | F |
| bromomethane | .2618 | .21227 | .1 | 19 | 20 | |
| chloroethane | .26039 | .29689 | .1 | -14 | 20 | |
| trichlorofluoromethane | .53057 | .63623 | .1 | -20 | 20 | |
| ethyl ether | .11539 | .10002 | .05 | 13 | 20 | |
| acetone | .04052 | .04009 | .1 | 1 | 20 | F |
| 1,1,-dichloroethene | .28629 | .26463 | .1 | 8 | 20 | |
| methylene chloride | .30757 | .31027 | .1 | -1 | 20 | |
| carbon disulfide | .78949 | .51343 | .1 | 35 | 20 | F |
| methyl tert butyl ether | .38634 | .30996 | .1 | 20 | 20 | |
| trans-1,2-dichloroethene | .32749 | .30047 | .1 | 8 | 20 | |
| Diisopropyl Ether | .8809 | .84696 | .05 | 4 | 20 | |
| 1,1-dichloroethane | .59499 | .58132 | .2 | 2 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .4788 | .05 | 13 | 20 | |
| 2-butanone | .05397 | .04884 | .1 | 9 | 20 | F |
| 2,2-dichloropropane | .3505 | .30333 | .05 | 13 | 20 | |
| cis-1,2-dichloroethene | .35294 | .34719 | .1 | 2 | 20 | |
| chloroform | .55513 | .54203 | .2 | 2 | 20 | |
| bromochloromethane | .13022 | .12692 | .05 | 3 | 20 | |
| tetrahydrofuran | .03742 | .03005 | .05 | 20 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .41645 | .1 | 7 | 20 | |
| 1,1-dichloropropene | .44371 | .41139 | .05 | 7 | 20 | |
| carbontetrachloride | .3695 | .32846 | .1 | 11 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .32408 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .32236 | .31743 | .1 | 2 | 20 | |
| benzene | 1.3755 | 1.3731 | .5 | 0 | 20 | |
| trichloroethene | .35538 | .31274 | .2 | 12 | 20 | |
| 1,2-dichloropropane | .29749 | .29329 | .1 | 1 | 20 | |
| bromodichloromethane | .31579 | .26069 | .2 | 17 | 20 | |
| 1,4-dioxane | .00101 | .00111 | .05 | -10 | 20 | F |
| dibromomethane | .1201 | .12057 | .05 | 0 | 20 | |
| 4-methyl-2-pentanone | .04053 | .0327 | .1 | 19 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .26202 | .2 | 25 | 20 | F |
| toluene | 1.1592 | 1.1388 | .4 | 2 | 20 | |
| trans-1,3-dichloropropene | 100 | 83.884 | .1 | 16 | 20 | |
| 1,1,2-trichloroethane | .18721 | .19503 | .1 | -4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020362

Instrument ID: Quimby.i  Calibration Date: 30-DEC-2010  Time: 20:57

Lab File ID: 1230N01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .09719 | .0862 | .1 | 11 | 20 | F |
| 1,3-dichloropropane | .40365 | .39354 | .05 | 3 | 20 | |
| tetrachloroethene | .52863 | .55542 | .2 | -5 | 20 | |
| chlorodibromomethane | .23194 | .19394 | .1 | 16 | 20 | |
| 1,2-dibromoethane | .20222 | .18776 | .1 | 7 | 20 | |
| chlorobenzene | 1.2741 | 1.2143 | .5 | 5 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .31219 | .05 | 6 | 20 | |
| ethyl benzene | 2.2828 | 2.3287 | .1 | -2 | 20 | |
| p/m xylene | .92639 | .98909 | .1 | -7 | 20 | |
| o xylene | .88623 | .9105 | .3 | -3 | 20 | |
| styrene | 1.3904 | 1.4358 | .31 | -3 | 20 | |
| isopropylbenzene | 2.4070 | 2.3400 | .1 | 3 | 20 | |
| bromoform | 100 | 74.977 | .1 | 25 | 20 | F |
| 1,1,2,2,-tetrachloroethane | .39202 | .35062 | .3 | 11 | 20 | |
| 1,2,3-trichloropropane | .3082 | .27646 | .05 | 10 | 20 | |
| n-propylbenzene | 4.4117 | 4.0955 | .05 | 7 | 20 | |
| bromobenzene | .84912 | .82498 | .05 | 3 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8404 | .05 | 8 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7627 | .05 | 7 | 20 | |
| 4-chorotoluene | 2.6913 | 2.4910 | .05 | 7 | 20 | |
| tert-butylbenzene | 2.6420 | 2.3226 | .05 | 12 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 2.9981 | .05 | 2 | 20 | |
| sec-butylbenzene | 3.8323 | 3.4650 | .05 | 10 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.8847 | .05 | 5 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6426 | .6 | 7 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6161 | .5 | 6 | 20 | |
| n-butylbenzene | 3.0901 | 2.8845 | .05 | 7 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.3714 | .4 | 7 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .02511 | .05 | 41 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .48153 | .2 | 31 | 20 | F |
| hexachlorobutadiene | .38351 | .3187 | .05 | 17 | 20 | |
| naphthalene | 100 | 61.751 | .05 | 38 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .34996 | .05 | 33 | 20 | F |
| dibromofluoromethane | .22479 | .2332 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .21608 | .05 | -6 | 20 | |
| toluene-d8 | 1.2342 | 1.3043 | .05 | -6 | 20 | |
| 4-bromofluorobenzene | .76826 | .70101 | .05 | 9 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1020451 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 01/03/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1020451-01 | APS-130-71.4-20101221-01 | WAYLAND, MA | 12/21/10 16:43 |
| L1020451-02 | APS-131-63.2-20101221-01 | WAYLAND, MA | 12/21/10 16:44 |
| L1020451-03 | APS-130-76.2-20101222-01 | WAYLAND, MA | 12/22/10 08:01 |
| L1020451-04 | APS-131-68.1-20101222-01 | WAYLAND, MA | 12/22/10 08:10 |
| L1020451-05 | APS-130-81.4-20101222-01 | WAYLAND, MA | 12/22/10 08:56 |
| L1020451-06 | APS-131-73.2-20101222-01 | WAYLAND, MA | 12/22/10 08:59 |
| L1020451-07 | EB-05-20101222-01 | WAYLAND, MA | 12/22/10 09:30 |
| L1020451-08 | APS-131-78.9-20101222-01 | WAYLAND, MA | 12/22/10 10:00 |
| L1020451-09 | APS-131-83.6-20101222-01 | WAYLAND, MA | 12/22/10 11:11 |
| L1020451-10 | EB-06-20101222-01 | WAYLAND, MA | 12/22/10 11:50 |
| L1020451-11 | APS-132-35.0-20101222-01 | WAYLAND, MA | 12/22/10 12:03 |
| L1020451-12 | APS-133-18.2-20101222-01 | WAYLAND, MA | 12/22/10 12:30 |
| L1020451-13 | APS-132-40.0-20101222-01 | WAYLAND, MA | 12/22/10 12:33 |
| L1020451-14 | APS-132-45.0-20101222-01 | WAYLAND, MA | 12/22/10 13:04 |
| L1020451-15 | APS-133-23.3-20101222-01 | WAYLAND, MA | 12/22/10 12:56 |
| L1020451-16 | APS-132-50.0-20101222-01 | WAYLAND, MA | 12/22/10 13:44 |
| L1020451-17 | APS-133-28.2-20101222-01 | WAYLAND, MA | 12/22/10 13:39 |
| L1020451-18 | APS-133-33.0-20101222-01 | WAYLAND, MA | 12/22/10 14:10 |
| L1020451-19 | APS-132-54.1-20101222-01 | WAYLAND, MA | 12/22/10 14:26 |
| L1020451-20 | APS-133-38.2-20101222-01 | WAYLAND, MA | 12/22/10 14:43 |
| L1020451-21 | APS-133-48.1-20101222-01 | WAYLAND, MA | 12/22/10 16:02 |
| L1020451-22 | EB-07-20101222-01 | WAYLAND, MA | 12/22/10 14:50 |
| L1020451-23 | APS-133-43.0-20101222-01 | WAYLAND, MA | 12/22/10 15:26 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451
**Project Number:** 0114119 **Report Date:** 01/03/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Sample Receipt

One vial for sample "APS-131-63.2-20101221-01" was accidentally broken upon receipt. However, sufficient volume remained for analysis.

Volatile Organics

L1020451-03 and -05 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

L1020451-22: The Equipment Blank has a result for Carbon disulfide present above the reporting limit. The sample vials were verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451
**Project Number:** 0114119 **Report Date:** 01/03/11

**Case Narrative (continued)**

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG449954-1/-2 LCS/LCSD recoveries, associated with L1020451-01 through -16, are below the acceptance criteria for Bromomethane (64%/68%), Dichlorodifluoromethane (49%/44%) and Carbon disulfide (65%/59%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG449954-1 LCS recovery, associated with L1020451-01 through -16, is below the individual acceptance criteria for Tetrahydrofuran (67%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG449965-1/-2 LCS/LCSD recoveries, associated with L1020451-17, -18 and -19, are below the individual acceptance criteria for Naphthalene (68%/65%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG449995-1/-2 LCS/LCSD recoveries, associated with L1020451-21, -22 and -23, are outside the individual acceptance criteria for several compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for Carbon tetrachloride (LCSD at 131%), Trichlorofluoromethane (LCSD at 133%) and 2,2-Dichloropropane (LCSD at 134%); and a potentially low bias for Dichlorodifluoromethane (LCS at 64%), Carbon disulfide (62%/65%), and Ethyl ether (LCSD at 69%).

The WG449995-1/-2 LCS/LCSD recoveries, associated with L1020451-21, -22 and -23, are below the individual acceptance criteria for Tetrahydrofuran (66%/60%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG450075-2 LCSD recovery, associated with L1020451-20, is above the individual acceptance criteria for Trichlorofluoromethane (133%), but within the overall method allowances. The results of the associated

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451
**Project Number:** 0114119 **Report Date:** 01/03/11

**Case Narrative (continued)**

sample are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The WG450075-1 LCS recovery, associated with L1020451-20, is below the acceptance criteria for Carbon disulfide (68%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

The initial calibration, associated with L1020451-01 through -16, -21, -22 and -23, did not meet the method required minimum response factor for 1,4-Dioxane (0.0016).

The initial calibration, associated with L1020451-17 through -20, did not meet the method required minimum response factor for Acetone (0.0405), 2-Butanone (0.0540), 4-Methyl-2-pentanone (0.0405), Tetrahydrofuran (0.0374), 2-Hexanone (0.0972), 1,2-Dibromo-3-chloropropane (0.0423) and 1,4-Dioxane (0.00101); and utilized a quadratic fit for trans-1,3-Dichloropropene, Bromoform and Naphthalene.

The continuing calibration standards, associated with L1020451-01 through -23, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 01/03/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-01 | Date Collected: | 12/21/10 16:43 |
| Client ID: | APS-130-71.4-20101221-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 11:35 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 72 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-01 Date Collected: 12/21/10 16:43

Client ID: APS-130-71.4-20101221-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 12 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-01 | Date Collected: | 12/21/10 16:43 |
| Client ID: | APS-130-71.4-20101221-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-02 | Date Collected: | 12/21/10 16:44 |
| Client ID: | APS-131-63.2-20101221-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 12:10 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 7.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-02 Date Collected: 12/21/10 16:44

Client ID: APS-131-63.2-20101221-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.1 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-02 | Date Collected: | 12/21/10 16:44 |
| Client ID: | APS-131-63.2-20101221-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-03 D | Date Collected: | 12/22/10 08:01 |
| Client ID: | APS-130-76.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 12:45 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 4.0 | -- | 2 |
| 1,1-Dichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Chloroform | ND | | ug/l | 2.0 | -- | 2 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | -- | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 2 |
| Dibromochloromethane | ND | | ug/l | 2.0 | -- | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Tetrachloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Chlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| Trichlorofluoromethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Bromodichloromethane | ND | | ug/l | 2.0 | -- | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 4.0 | -- | 2 |
| Bromoform | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Benzene | ND | | ug/l | 2.0 | -- | 2 |
| Toluene | ND | | ug/l | 2.0 | -- | 2 |
| Ethylbenzene | ND | | ug/l | 2.0 | -- | 2 |
| Chloromethane | ND | | ug/l | 4.0 | -- | 2 |
| Bromomethane | ND | | ug/l | 4.0 | -- | 2 |
| Vinyl chloride | ND | | ug/l | 2.0 | -- | 2 |
| Chloroethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,1-Dichloroethene | ND | | ug/l | 2.0 | -- | 2 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Trichloroethene | 100 | | ug/l | 2.0 | -- | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-03 D Date Collected: 12/22/10 08:01

Client ID: APS-130-76.2-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| Methyl tert butyl ether | ND | | ug/l | 4.0 | -- | 2 |
| p/m-Xylene | ND | | ug/l | 4.0 | -- | 2 |
| o-Xylene | ND | | ug/l | 2.0 | -- | 2 |
| cis-1,2-Dichloroethene | 24 | | ug/l | 2.0 | -- | 2 |
| Dibromomethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| Styrene | ND | | ug/l | 2.0 | -- | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 4.0 | -- | 2 |
| Acetone | ND | | ug/l | 10 | -- | 2 |
| Carbon disulfide | ND | | ug/l | 4.0 | -- | 2 |
| 2-Butanone | ND | | ug/l | 10 | -- | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | -- | 2 |
| 2-Hexanone | ND | | ug/l | 10 | -- | 2 |
| Bromochloromethane | ND | | ug/l | 4.0 | -- | 2 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Bromobenzene | ND | | ug/l | 4.0 | -- | 2 |
| n-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| sec-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| tert-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| o-Chlorotoluene | ND | | ug/l | 4.0 | -- | 2 |
| p-Chlorotoluene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 4.0 | -- | 2 |
| Hexachlorobutadiene | ND | | ug/l | 1.2 | -- | 2 |
| Isopropylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| p-Isopropyltoluene | ND | | ug/l | 4.0 | -- | 2 |
| Naphthalene | ND | | ug/l | 4.0 | -- | 2 |
| n-Propylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl ether | ND | | ug/l | 4.0 | -- | 2 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-03 D Date Collected: 12/22/10 08:01

Client ID: APS-130-76.2-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 4.0 | -- | 2 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 4.0 | -- | 2 |
| 1,4-Dioxane | ND | | ug/l | 500 | -- | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-04 | Date Collected: | 12/22/10 08:10 |
| Client ID: | APS-131-68.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 13:19 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 39 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-04 Date Collected: 12/22/10 08:10

Client ID: APS-131-68.1-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-04 | Date Collected: | 12/22/10 08:10 |
| Client ID: | APS-131-68.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-05 D | Date Collected: | 12/22/10 08:56 |
| Client ID: | APS-130-81.4-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 13:54 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 4.0 | -- | 2 |
| 1,1-Dichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Chloroform | ND | | ug/l | 2.0 | -- | 2 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | -- | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 2 |
| Dibromochloromethane | ND | | ug/l | 2.0 | -- | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Tetrachloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Chlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| Trichlorofluoromethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Bromodichloromethane | ND | | ug/l | 2.0 | -- | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 4.0 | -- | 2 |
| Bromoform | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Benzene | ND | | ug/l | 2.0 | -- | 2 |
| Toluene | ND | | ug/l | 2.0 | -- | 2 |
| Ethylbenzene | ND | | ug/l | 2.0 | -- | 2 |
| Chloromethane | ND | | ug/l | 4.0 | -- | 2 |
| Bromomethane | ND | | ug/l | 4.0 | -- | 2 |
| Vinyl chloride | ND | | ug/l | 2.0 | -- | 2 |
| Chloroethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,1-Dichloroethene | ND | | ug/l | 2.0 | -- | 2 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.0 | -- | 2 |
| Trichloroethene | 110 | | ug/l | 2.0 | -- | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-05 D Date Collected: 12/22/10 08:56

Client ID: APS-130-81.4-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.0 | -- | 2 |
| Methyl tert butyl ether | ND | | ug/l | 4.0 | -- | 2 |
| p/m-Xylene | ND | | ug/l | 4.0 | -- | 2 |
| o-Xylene | ND | | ug/l | 2.0 | -- | 2 |
| cis-1,2-Dichloroethene | 21 | | ug/l | 2.0 | -- | 2 |
| Dibromomethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| Styrene | ND | | ug/l | 2.0 | -- | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 4.0 | -- | 2 |
| Acetone | ND | | ug/l | 10 | -- | 2 |
| Carbon disulfide | ND | | ug/l | 4.0 | -- | 2 |
| 2-Butanone | ND | | ug/l | 10 | -- | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | -- | 2 |
| 2-Hexanone | ND | | ug/l | 10 | -- | 2 |
| Bromochloromethane | ND | | ug/l | 4.0 | -- | 2 |
| Tetrahydrofuran | ND | | ug/l | 10 | -- | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.0 | -- | 2 |
| Bromobenzene | ND | | ug/l | 4.0 | -- | 2 |
| n-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| sec-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| tert-Butylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| o-Chlorotoluene | ND | | ug/l | 4.0 | -- | 2 |
| p-Chlorotoluene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 4.0 | -- | 2 |
| Hexachlorobutadiene | ND | | ug/l | 1.2 | -- | 2 |
| Isopropylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| p-Isopropyltoluene | ND | | ug/l | 4.0 | -- | 2 |
| Naphthalene | ND | | ug/l | 4.0 | -- | 2 |
| n-Propylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl ether | ND | | ug/l | 4.0 | -- | 2 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-05 D Date Collected: 12/22/10 08:56

Client ID: APS-130-81.4-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 4.0 | -- | 2 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 4.0 | -- | 2 |
| 1,4-Dioxane | ND | | ug/l | 500 | -- | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-06 | Date Collected: | 12/22/10 08:59 |
| Client ID: | APS-131-73.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 14:29 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 46 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-06 Date Collected: 12/22/10 08:59

Client ID: APS-131-73.2-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 7.8 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-06 | Date Collected: | 12/22/10 08:59 |
| Client ID: | APS-131-73.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-07 | Date Collected: | 12/22/10 09:30 |
| Client ID: | EB-05-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 15:03 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-07 Date Collected: 12/22/10 09:30

Client ID: EB-05-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-07 | Date Collected: | 12/22/10 09:30 |
| Client ID: | EB-05-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-08 | Date Collected: | 12/22/10 10:00 |
| Client ID: | APS-131-78.9-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 15:38 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 37 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-08 Date Collected: 12/22/10 10:00

Client ID: APS-131-78.9-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 10 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-08 | Date Collected: | 12/22/10 10:00 |
| Client ID: | APS-131-78.9-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-09 | Date Collected: | 12/22/10 11:11 |
| Client ID: | APS-131-83.6-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 16:12 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 48 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-09 Date Collected: 12/22/10 11:11

Client ID: APS-131-83.6-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 13 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-09 | Date Collected: | 12/22/10 11:11 |
| Client ID: | APS-131-83.6-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-10 | Date Collected: | 12/22/10 11:50 |
| Client ID: | EB-06-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 16:47 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-10 Date Collected: 12/22/10 11:50

Client ID: EB-06-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | 6.6 | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | 16 | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-10 | Date Collected: | 12/22/10 11:50 |
| Client ID: | EB-06-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-11 | Date Collected: | 12/22/10 12:03 |
| Client ID: | APS-132-35.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 17:21 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-11 Date Collected: 12/22/10 12:03

Client ID: APS-132-35.0-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-11 | Date Collected: | 12/22/10 12:03 |
| Client ID: | APS-132-35.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-12 | Date Collected: | 12/22/10 12:30 |
| Client ID: | APS-133-18.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 17:56 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-12 Date Collected: 12/22/10 12:30

Client ID: APS-133-18.2-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-12 | Date Collected: | 12/22/10 12:30 |
| Client ID: | APS-133-18.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-13 | Date Collected: | 12/22/10 12:33 |
| Client ID: | APS-132-40.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 18:30 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-13 Date Collected: 12/22/10 12:33

Client ID: APS-132-40.0-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-13 | Date Collected: | 12/22/10 12:33 |
| Client ID: | APS-132-40.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 115 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-14 | Date Collected: | 12/22/10 13:04 |
| Client ID: | APS-132-45.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 19:05 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-14 Date Collected: 12/22/10 13:04

Client ID: APS-132-45.0-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-14 | Date Collected: | 12/22/10 13:04 |
| Client ID: | APS-132-45.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-15 | Date Collected: | 12/22/10 12:56 |
| Client ID: | APS-133-23.3-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 19:39 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-15 | Date Collected: | 12/22/10 12:56 |
| Client ID: | APS-133-23.3-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-15 | Date Collected: | 12/22/10 12:56 |
| Client ID: | APS-133-23.3-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 114 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-16 | Date Collected: | 12/22/10 13:44 |
| Client ID: | APS-132-50.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/31/10 20:14 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-16 Date Collected: 12/22/10 13:44

Client ID: APS-132-50.0-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-16 | Date Collected: | 12/22/10 13:44 |
| Client ID: | APS-132-50.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-17 | Date Collected: | 12/22/10 13:39 |
| Client ID: | APS-133-28.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 00:41 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-17 Date Collected: 12/22/10 13:39

Client ID: APS-133-28.2-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-17 | Date Collected: | 12/22/10 13:39 |
| Client ID: | APS-133-28.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 118 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-18 | Date Collected: | 12/22/10 14:10 |
| Client ID: | APS-133-33.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 01:12 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.9 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-18 Date Collected: 12/22/10 14:10

Client ID: APS-133-33.0-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-18 | Date Collected: | 12/22/10 14:10 |
| Client ID: | APS-133-33.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 116 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 120 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-19 | Date Collected: | 12/22/10 14:26 |
| Client ID: | APS-132-54.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 01:44 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-19 | Date Collected: | 12/22/10 14:26 |
| Client ID: | APS-132-54.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-19 | Date Collected: | 12/22/10 14:26 |
| Client ID: | APS-132-54.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 119 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 116 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-20 | Date Collected: | 12/22/10 14:43 |
| Client ID: | APS-133-38.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 10:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-20 Date Collected: 12/22/10 14:43

Client ID: APS-133-38.2-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-20 | Date Collected: | 12/22/10 14:43 |
| Client ID: | APS-133-38.2-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 120 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 113 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-21 | Date Collected: | 12/22/10 16:02 |
| Client ID: | APS-133-48.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 19:44 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-21 Date Collected: 12/22/10 16:02

Client ID: APS-133-48.1-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-21 | Date Collected: | 12/22/10 16:02 |
| Client ID: | APS-133-48.1-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-22 | Date Collected: | 12/22/10 14:50 |
| Client ID: | EB-07-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 20:18 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020451-22 Date Collected: 12/22/10 14:50

Client ID: EB-07-20101222-01 Date Received: 12/22/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | 3.8 | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-22 | Date Collected: | 12/22/10 14:50 |
| Client ID: | EB-07-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-23 | Date Collected: | 12/22/10 15:26 |
| Client ID: | APS-133-43.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 20:53 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-23 | Date Collected: | 12/22/10 15:26 |
| Client ID: | APS-133-43.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020451-23 | Date Collected: | 12/22/10 15:26 |
| Client ID: | APS-133-43.0-20101222-01 | Date Received: | 12/22/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/31/10 09:51
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-16 Batch: WG449954-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/31/10 09:51
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-16 Batch: WG449954-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/31/10 09:51
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-16 Batch: WG449954-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 94 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 16:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 17-19 Batch: WG449965-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 16:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 17-19 Batch: WG449965-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 16:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 17-19 Batch: WG449965-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 19:09
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 21-23 Batch: WG449995-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 19:09
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 21-23 Batch: WG449995-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 19:09
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 21-23 Batch: WG449995-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

Tentatively Identified Compounds

| | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 96 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/03/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 20 Batch: WG450075-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/03/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 20 Batch: WG450075-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/03/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 20 Batch: WG450075-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Tentatively Identified Compounds | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| D bromofluoromethane | 107 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG449954-1 WG449954-2 | | | | | | | | |
| Methylene chloride | 89 | | 86 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 92 | | 90 | | 70-130 | 2 | | 20 |
| Chloroform | 97 | | 94 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 90 | | 86 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 93 | | 90 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 82 | | 82 | | 70-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 96 | | 90 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 93 | | 91 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 98 | | 89 | | 70-130 | 10 | | 20 |
| 1,2-Dichloroethane | 105 | | 103 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 91 | | 88 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 94 | | 93 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 83 | | 84 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 77 | | 77 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 89 | | 84 | | 70-130 | 6 | | 20 |
| Bromoform | 75 | | 77 | | 70-130 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 94 | | 94 | | 70-130 | 0 | | 20 |
| Benzene | 91 | | 88 | | 70-130 | 3 | | 20 |
| Toluene | 90 | | 88 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG449954-1 WG449954-2 | | | | | | | | |
| Chloromethane | 78 | | 77 | | 70-130 | 1 | | 20 |
| Bromomethane | **64** | Q | **68** | Q | 70-130 | 6 | | 20 |
| Vinyl chloride | 80 | | 75 | | 70-130 | 6 | | 20 |
| Chloroethane | 82 | | 74 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 82 | | 77 | | 70-130 | 6 | | 20 |
| trans-1,2-Dichloroethene | 85 | | 80 | | 70-130 | 6 | | 20 |
| Trichloroethene | 90 | | 85 | | 70-130 | 6 | | 20 |
| 1,2-Dichlorobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 91 | | 70-130 | 5 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 93 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 73 | | 75 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 97 | | 95 | | 70-130 | 2 | | 20 |
| o-Xylene | 93 | | 91 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Dibromomethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 94 | | 70-130 | 0 | | 20 |
| Styrene | 88 | | 86 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | **49** | Q | **44** | Q | 70-130 | 11 | | 20 |
| Acetone | 83 | | 87 | | 70-130 | 5 | | 20 |
| Carbon disulfide | **65** | Q | **59** | Q | 70-130 | 10 | | 20 |
| 2-Butanone | 96 | | 97 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG449954-1 WG449954-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 97 | | 70-130 | 9 | | 20 |
| 2-Hexanone | 96 | | 98 | | 70-130 | 2 | | 20 |
| Bromochloromethane | 94 | | 91 | | 70-130 | 3 | | 20 |
| Tetrahydrofuran | **67** | Q | 70 | | 70-130 | 4 | | 20 |
| 2,2-Dichloropropane | 109 | | 108 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 89 | | 89 | | 70-130 | 0 | | 20 |
| Bromobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 100 | | 93 | | 70-130 | 7 | | 20 |
| sec-Butylbenzene | 101 | | 95 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 108 | | 100 | | 70-130 | 8 | | 20 |
| o-Chlorotoluene | 97 | | 93 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 96 | | 94 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 88 | | 70-130 | 1 | | 20 |
| Hexachlorobutadiene | 103 | | 97 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 98 | | 94 | | 70-130 | 4 | | 20 |
| p-Isopropyltoluene | 105 | | 99 | | 70-130 | 6 | | 20 |
| Naphthalene | 94 | | 95 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 99 | | 95 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 92 | | 95 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-16 Batch: WG449954-1 WG449954-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 99 | | 94 | | 70-130 | 5 | | 20 |
| 1,2,4-Trimethylbenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Ethyl ether | 76 | | 74 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 81 | | 79 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 87 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 73 | | 75 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | 100 | | 106 | | 70-130 | 6 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 107 | | 70-130 |
| Toluene-d8 | 98 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 98 | | 70-130 |
| Dibromofluoromethane | 101 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-19 Batch: WG449965-1 WG449965-2 | | | | | | | | |
| Methylene chloride | 100 | | 102 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 97 | | 100 | | 70-130 | 3 | | 20 |
| Chloroform | 99 | | 101 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 94 | | 90 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 101 | | 103 | | 70-130 | 2 | | 20 |
| Dibromochloromethane | 87 | | 87 | | 70-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 106 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 98 | | 104 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 92 | | 99 | | 70-130 | 7 | | 20 |
| Trichlorofluoromethane | 122 | | 123 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| Bromodichloromethane | 93 | | 92 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 91 | | 90 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 84 | | 83 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 92 | | 93 | | 70-130 | 1 | | 20 |
| Bromoform | 90 | | 77 | | 70-130 | 16 | | 20 |
| 1,1,2,2-Tetrachloroethane | 94 | | 93 | | 70-130 | 1 | | 20 |
| Benzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Toluene | 92 | | 98 | | 70-130 | 6 | | 20 |
| Ethylbenzene | 98 | | 105 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-19 Batch: WG449965-1 WG449965-2 | | | | | | | | |
| Chloromethane | 108 | | 116 | | 70-130 | 7 | | 20 |
| Bromomethane | 101 | | 102 | | 70-130 | 1 | | 20 |
| Vinyl chloride | 113 | | 122 | | 70-130 | 8 | | 20 |
| Chloroethane | 108 | | 116 | | 70-130 | 7 | | 20 |
| 1,1-Dichloroethene | 93 | | 90 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 91 | | 70-130 | 2 | | 20 |
| Trichloroethene | 88 | | 87 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 84 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 100 | | 110 | | 70-130 | 10 | | 20 |
| o-Xylene | 99 | | 105 | | 70-130 | 6 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 98 | | 70-130 | 2 | | 20 |
| Dibromomethane | 105 | | 104 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 90 | | 70-130 | 4 | | 20 |
| Styrene | 102 | | 108 | | 70-130 | 6 | | 20 |
| Dichlorodifluoromethane | 90 | | 93 | | 70-130 | 3 | | 20 |
| Acetone | 109 | | 127 | | 70-130 | 15 | | 20 |
| Carbon disulfide | 75 | | 72 | | 70-130 | 4 | | 20 |
| 2-Butanone | 115 | | 110 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-19 Batch: WG449965-1 WG449965-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 100 | | 101 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 104 | | 107 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 103 | | 99 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 87 | | 79 | | 70-130 | 10 | | 20 |
| 2,2-Dichloropropane | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,2-Dibromoethane | 93 | | 97 | | 70-130 | 4 | | 20 |
| 1,3-Dichloropropane | 96 | | 102 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 104 | | 70-130 | 6 | | 20 |
| Bromobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| sec-Butylbenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 88 | | 87 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 77 | | 71 | | 70-130 | 8 | | 20 |
| Hexachlorobutadiene | 89 | | 84 | | 70-130 | 6 | | 20 |
| Isopropylbenzene | 92 | | 97 | | 70-130 | 5 | | 20 |
| p-Isopropyltoluene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Naphthalene | **68** | Q | **65** | Q | 70-130 | 5 | | 20 |
| n-Propylbenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 73 | | 73 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 17-19 Batch: WG449965-1 WG449965-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 74 | | 73 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Ethyl ether | 87 | | 83 | | 70-130 | 5 | | 20 |
| Isopropyl Ether | 98 | | 96 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 90 | | 87 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 95 | | 96 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 103 | | 107 | | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 108 | | 70-130 |
| Toluene-d8 | 101 | | 106 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 91 | | 70-130 |
| Dibromofluoromethane | 105 | | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-23 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| Methylene chloride | 95 | | 93 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 96 | | 101 | | 70-130 | 5 | | 20 |
| Chloroform | 104 | | 116 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 108 | | **131** | Q | 70-130 | 19 | | 20 |
| 1,2-Dichloropropane | 97 | | 92 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 92 | | 100 | | 70-130 | 8 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 90 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 96 | | 102 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 115 | | **133** | Q | 70-130 | 15 | | 20 |
| 1,2-Dichloroethane | 110 | | 128 | | 70-130 | 15 | | 20 |
| 1,1,1-Trichloroethane | 104 | | 123 | | 70-130 | 17 | | 20 |
| Bromodichloromethane | 106 | | 123 | | 70-130 | 15 | | 20 |
| trans-1,3-Dichloropropene | 90 | | 95 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 84 | | 92 | | 70-130 | 9 | | 20 |
| 1,1-Dichloropropene | 95 | | 102 | | 70-130 | 7 | | 20 |
| Bromoform | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 87 | | 70-130 | 7 | | 20 |
| Benzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| Toluene | 91 | | 90 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 98 | | 103 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-23 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| Chloromethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Bromomethane | 102 | | 123 | | 70-130 | 19 | | 20 |
| Vinyl chloride | 84 | | 90 | | 70-130 | 7 | | 20 |
| Chloroethane | 77 | | 84 | | 70-130 | 9 | | 20 |
| 1,1-Dichloroethene | 91 | | 93 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 90 | | 94 | | 70-130 | 4 | | 20 |
| Trichloroethene | 93 | | 102 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 72 | | 77 | | 70-130 | 7 | | 20 |
| p/m-Xylene | 99 | | 100 | | 70-130 | 1 | | 20 |
| o-Xylene | 94 | | 94 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 101 | | 70-130 | 3 | | 20 |
| Dibromomethane | 104 | | 113 | | 70-130 | 8 | | 20 |
| 1,2,3-Trichloropropane | 91 | | 87 | | 70-130 | 4 | | 20 |
| Styrene | 90 | | 92 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | **64** | Q | 76 | | 70-130 | 17 | | 20 |
| Acetone | 87 | | 91 | | 70-130 | 4 | | 20 |
| Carbon disulfide | **62** | Q | **65** | Q | 70-130 | 5 | | 20 |
| 2-Butanone | 90 | | 93 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-23 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 88 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 91 | | 86 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 99 | | 105 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | **66** | Q | **60** | Q | 70-130 | 10 | | 20 |
| 2,2-Dichloropropane | 119 | | **134** | Q | 70-130 | 12 | | 20 |
| 1,2-Dibromoethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 106 | | 70-130 | 8 | | 20 |
| Bromobenzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 96 | | 102 | | 70-130 | 6 | | 20 |
| sec-Butylbenzene | 99 | | 102 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 104 | | 104 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Hexachlorobutadiene | 104 | | 115 | | 70-130 | 10 | | 20 |
| Isopropylbenzene | 98 | | 104 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 102 | | 107 | | 70-130 | 5 | | 20 |
| Naphthalene | 90 | | 80 | | 70-130 | 12 | | 20 |
| n-Propylbenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 90 | | 84 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 21-23 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Ethyl ether | 77 | | **69** | Q | 70-130 | 11 | | 20 |
| Isopropyl Ether | 80 | | 84 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 84 | | 91 | | 70-130 | 8 | | 20 |
| Tertiary-Amyl Methyl Ether | 73 | | 78 | | 70-130 | 7 | | 20 |
| 1,4-Dioxane | 100 | | 100 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 129 | | 70-130 |
| Toluene-d8 | 99 | | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 97 | | 70-130 |
| Dibromofluoromethane | 104 | | 114 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 20 Batch: WG450075-1 WG450075-2 | | | | | | | | |
| Methylene chloride | 106 | | 107 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 104 | | 102 | | 70-130 | 2 | | 20 |
| Chloroform | 102 | | 105 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 101 | | 106 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 102 | | 105 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 90 | | 96 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 105 | | 106 | | 70-130 | 1 | | 20 |
| Tetrachloroethene | 105 | | 109 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 128 | | **133** | Q | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 102 | | 104 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 105 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 93 | | 97 | | 70-130 | 4 | | 20 |
| trans-1,3-Dichloropropene | 96 | | 97 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 88 | | 88 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Bromoform | 90 | | 90 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 95 | | 70-130 | 2 | | 20 |
| Benzene | 100 | | 102 | | 70-130 | 2 | | 20 |
| Toluene | 97 | | 97 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 103 | | 104 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 20 Batch: WG450075-1 WG450075-2 | | | | | | | | |
| Chloromethane | 113 | | 117 | | 70-130 | 3 | | 20 |
| Bromomethane | 106 | | 108 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 124 | | 126 | | 70-130 | 2 | | 20 |
| Chloroethane | 116 | | 116 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 102 | | 105 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 96 | | 100 | | 70-130 | 4 | | 20 |
| Trichloroethene | 92 | | 95 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 84 | | 89 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 106 | | 107 | | 70-130 | 1 | | 20 |
| o-Xylene | 104 | | 104 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 101 | | 106 | | 70-130 | 5 | | 20 |
| Dibromomethane | 105 | | 110 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 92 | | 94 | | 70-130 | 2 | | 20 |
| Styrene | 103 | | 102 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 87 | | 87 | | 70-130 | 0 | | 20 |
| Acetone | 107 | | 104 | | 70-130 | 3 | | 20 |
| Carbon disulfide | **68** | Q | 71 | | 70-130 | 4 | | 20 |
| 2-Butanone | 102 | | 103 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 20 Batch: WG450075-1 WG450075-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 97 | | 92 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 99 | | 96 | | 70-130 | 3 | | 20 |
| Bromochloromethane | 100 | | 104 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 91 | | 91 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 102 | | 101 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 97 | | 99 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| Bromobenzene | 95 | | 97 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 90 | | 92 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 93 | | 93 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 83 | | 89 | | 70-130 | 7 | | 20 |
| Hexachlorobutadiene | 89 | | 87 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Naphthalene | 72 | | 72 | | 70-130 | 0 | | 20 |
| n-Propylbenzene | 95 | | 94 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 80 | | 80 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020451
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 20 Batch: WG450075-1 WG450075-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 80 | | 80 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Ethyl ether | 87 | | 89 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 101 | | 104 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 90 | | 93 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | 114 | | 116 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 107 | | 70-130 |
| Toluene-d8 | 103 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 93 | | 70-130 |
| Dibromofluoromethane | 104 | | 104 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

| Cooler Information | Custody Seal |
|---|---|
| **Cooler** | |
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020451-01A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-01B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-02A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-02B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-03A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-03B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-04A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-04B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-05A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-05B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-06A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-06B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-07A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-07B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-08A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-08B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-09A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-09B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-10A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-10B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-11A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-11B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-12A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-12B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-13A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-13B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-14A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020451
**Report Date:** 01/03/11

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020451-14B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-15A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-15B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-16A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-16B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-17A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-17B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-18A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-18B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-19A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-19B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-20A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-20B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-21A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-21B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-22A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-22B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-23A | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |
| L1020451-23B | Clear Vial HCl preserved | A | N/A | 3 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020451 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020451 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020451
**Project Number:** 0114119 **Report Date:** 01/03/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 12/22/10

ALPHA Job #: L10 20451

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St. Boston MA 02116
Phone: 617-646-7800
Fax: 617-267-6447
Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON-WAYLAND
Project Location: WAYLAND, MA
Project #: 0114119
Project Manager: JASON FLATTERY
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: 12/30/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: 8260 VOC's | SAMPLE HANDLING | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 20451.1 | APS-130-71.4-20101222-01 | 2010/12/22 | 1643 | GW | LSM | 2 | | | |
| 2 | APS-131-63.2-20101222-01 | 2010/12/21 | 1644 | | | | | | |
| 3 | APS-130-76.2-20101222-01 | 2010/12/22 | 0801 | | | | | | |
| 4 | APS-131-68.1-20101222-01 | 2010/12/22 | 0810 | | | | | | |
| 5 | APS-130-81.4-20101222-01 | 2010/12/22 | 0856 | | | | | | |
| 6 | APS-131-73.2-20101222-01 | 2010/12/22 | 0859 | | | | | | |
| 7 | EB-05-20101222-01 | 2010/12/22 | 0930 | | | | | | |
| 8 | APS-131 78.9 LSM 20101222-01 | 2010/12/22 | 1000 | | | | | | |
| 9 | APS-131-83.6-20101222-01 | 2010/12/22 | 1111 | | | | | | |
| 10 | EB-06-20101222-01 | 2010/12/22 | 1150 | | | | | | |

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | VIAL | | | | | | | | | | | | | | |
| Preservative | HCL | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 12/22/10 1620 | [signature] | 12/22/10 1620 |
| [signature] | 12/22/10 1725 | [signature] | 12/22/10 1725 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 12/22/10

ALPHA Job #: L1020451

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND
Project Location:
Project #: 0114119
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/30/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: 8260 VOCs

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | 8260 VOCs | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20451.11 | APS-132-35.0-20101222-01 | 2010/12/22 | 1203 | GW | LSM | 2 | | |
| 12 | APS-133-18.2-20101222-01 | | 1230 | | | | | |
| 13 | APS-132-40.0-20101222-01 | | 1233 | | | | | |
| 14 | APS-132-45.0-20101222-01 | | 1304 | | | | | |
| 15 | APS-133-23.3-20101222-01 | | 1256 | | | | | |
| 16 | APS-132-50.0-20101222-01 | | 1344 | | | | | |
| 17 | APS-133-28.2-20101222-01 | | 1339 | | | | | |
| 18 | APS-133-35.0-20101222-01 | | 1410 | | | | | |
| 19 | APS-132-54.1-20101222-01 | | 1426 | | | | | |
| 20 | APS-133-38.2-20101222-01 | | 1443 | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 2010/12/22 12:00 | [illegible] | 12/22/10 1620 |
| [illegible] | 12/22 1725 | [illegible] | 12/22/10 1725 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:01031116:26

# CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 12/22/10

ALPHA Job #: L1020451

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address:
Phone:
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: RAYTHEON - WAYLAND
Project Location:
Project #: 0114-19
Project Manager:
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/30/10 Time:

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☐ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program | Criteria

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOCs 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20451-21 | APS-133-48.1-20101222-01 | 10/12/22 | 1602 | GW | LJM | 2 | | |
| 22 | EB-07-20101222-01 | | 1450 | | | | | |
| 23 | APS-133-43.0-20101222-01 | | 1526 | | | | | |

| | VOC |
|---|---|
| Container Type | VAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 12/22/10 1725 | [illegible] | 12/22/10 1725 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:01031116 26

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 03-JAN-2011  Time: 07:25

Lab File ID: 0103A03  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .29262 | .1 | 13 | 20 | |
| chloromethane | .4498 | .50842 | .1 | -13 | 20 | |
| vinyl chloride | .32842 | .40708 | .1 | -24 | 20 | F |
| bromomethane | .2618 | .27637 | .1 | -6 | 20 | |
| chloroethane | .26039 | .30144 | .1 | -16 | 20 | |
| trichlorofluoromethane | .53057 | .67734 | .1 | -28 | 20 | F |
| ethyl ether | .11539 | .10013 | .05 | 13 | 20 | |
| acrolien | .00521 | .00738 | .05 | -42 | 20 | F |
| freon-113 | .2988 | .33967 | .1 | -14 | 20 | |
| acetone | .04052 | .04334 | .1 | -7 | 20 | F |
| 1,1,-dichloroethene | .28629 | .29255 | .1 | -2 | 20 | |
| tert-butyl alcohol | .00516 | .00642 | .05 | -24 | 20 | F |
| iodomethane | .37402 | .35194 | .05 | 6 | 20 | |
| methylene chloride | .30757 | .32631 | .1 | -6 | 20 | |
| carbon disulfide | .78949 | .53593 | .1 | 32 | 20 | F |
| acrylonitrile | .05421 | .04387 | .05 | 19 | 20 | |
| methyl tert butyl ether | .38634 | .32387 | .1 | 16 | 20 | |
| Halothane | .21861 | .1885 | .05 | 14 | 20 | |
| trans-1,2-dichloroethene | .32749 | .3155 | .1 | 4 | 20 | |
| Diisopropyl Ether | .8809 | .88883 | .05 | -1 | 20 | |
| vinyl acetate | .44952 | .46948 | .05 | -4 | 20 | |
| 1,1-dichloroethane | .59499 | .61784 | .2 | -4 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .49559 | .05 | 10 | 20 | |
| 2-butanone | .05397 | .05516 | .1 | -2 | 20 | F |
| 2,2-dichloropropane | .3505 | .3579 | .05 | -2 | 20 | |
| ethyl acetate | .13699 | .13606 | .05 | 1 | 20 | |
| cis-1,2-dichloroethene | .35294 | .3568 | .1 | -1 | 20 | |
| chloroform | .55513 | .56395 | .2 | -2 | 20 | |
| bromochloromethane | .13022 | .12962 | .05 | 0 | 20 | |
| tetrahydrofuran | .03742 | .03396 | .05 | 9 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .44733 | .1 | 0 | 20 | |
| 1,1-dichloropropene | .44371 | .43452 | .05 | 2 | 20 | |
| carbontetrachloride | .3695 | .37283 | .1 | -1 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .34771 | .05 | 3 | 20 | |
| 1,2-dichloroethane | .32236 | .32826 | .1 | -2 | 20 | |
| benzene | 1.3755 | 1.3831 | .5 | -1 | 20 | |
| trichloroethene | .35538 | .3286 | .2 | 8 | 20 | |
| 1,2-dichloropropane | .29749 | .30261 | .1 | -2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 03-JAN-2011  Time: 07:25

Lab File ID: 0103A03  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| bromodichloromethane | .31579 | .29503 | .2 | 7 | 20 | |
| 1,4-dioxane | .00101 | .00115 | .05 | -14 | 20 | F |
| dibromomethane | .1201 | .12657 | .05 | -5 | 20 | |
| 2-chloroethylvinyl ether | .08478 | .07311 | .05 | 14 | 20 | |
| 4-methyl-2-pentanone | .04053 | .03922 | .1 | 3 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .30747 | .2 | 12 | 20 | |
| toluene | 1.1592 | 1.1198 | .4 | 3 | 20 | |
| trans-1,3-dichloropropene | 100 | 96.215 | .1 | 4 | 20 | |
| 1,1,2-trichloroethane | .18721 | .19672 | .1 | -5 | 20 | |
| 2-hexanone | .09719 | .09651 | .1 | 1 | 20 | F |
| 1,3-dichloropropane | .40365 | .39095 | .05 | 3 | 20 | |
| tetrachloroethene | .52863 | .55719 | .2 | -5 | 20 | |
| chlorodibromomethane | .23194 | .20908 | .1 | 10 | 20 | |
| 1,2-dibromoethane | .20222 | .19623 | .1 | 3 | 20 | |
| chlorobenzene | 1.2741 | 1.2153 | .5 | 5 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .33927 | .05 | -2 | 20 | |
| ethyl benzene | 2.2828 | 2.3425 | .1 | -3 | 20 | |
| p/m xylene | .92639 | .98081 | .1 | -6 | 20 | |
| o xylene | .88623 | .92409 | .3 | -4 | 20 | |
| styrene | 1.3904 | 1.4282 | .31 | -3 | 20 | |
| isopropylbenzene | 2.4070 | 2.3396 | .1 | 3 | 20 | |
| trans-1,4-dichloro-2-butene | .04426 | .03936 | .05 | 11 | 20 | F |
| bromoform | 100 | 89.721 | .1 | 10 | 20 | |
| 1,1,2,2,-tetrachloroethane | .39202 | .36438 | .3 | 7 | 20 | |
| 1,2,3-trichloropropane | .3082 | .28227 | .05 | 8 | 20 | |
| n-propylbenzene | 4.4117 | 4.1885 | .05 | 5 | 20 | |
| bromobenzene | .84912 | .8029 | .05 | 5 | 20 | |
| 4-ethyltoluene | 1.7912 | 1.7403 | .05 | 3 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8306 | .05 | 9 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7474 | .05 | 7 | 20 | |
| 4-chorotoluene | 2.6913 | 2.4751 | .05 | 8 | 20 | |
| tert-butylbenzene | 2.6420 | 2.3256 | .05 | 12 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 2.9348 | .05 | 4 | 20 | |
| sec-butylbenzene | 3.8323 | 3.4485 | .05 | 10 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.8807 | .05 | 5 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6647 | .6 | 6 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6336 | .5 | 4 | 20 | |
| n-butylbenzene | 3.0901 | 2.9106 | .05 | 6 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 03-JAN-2011  Time: 07:25

Lab File ID: 0103A03  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,2,4,5-tetramathylbenezene | .87999 | .86592 | .05 | 2 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.3872 | .4 | 6 | 20 | |
| p-diethylbenzene | 100 | 79.944 | .05 | 20 | 20 | F |
| 1,2-dibromo-3-chloropropane | .04255 | .03514 | .05 | 17 | 20 | F |
| 1,3,5-trichlorobenzene | .88638 | .89241 | .01 | -1 | 30 | |
| 1,2,4-trichlorobenzene | .69902 | .56085 | .2 | 20 | 20 | |
| hexachlorobutadiene | .38351 | .34186 | .05 | 11 | 20 | |
| naphthalene | 100 | 71.651 | .05 | 28 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .41393 | .05 | 21 | 20 | F |
| dibromofluoromethane | .22479 | .23296 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .2179 | .05 | -7 | 20 | |
| toluene-d8 | 1.2342 | 1.2657 | .05 | -3 | 20 | |
| 4-bromofluorobenzene | .76826 | .70108 | .05 | 9 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Elaine.i  Calibration Date: 31-DEC-2010  Time: 08:42

Lab File ID: 1231A01  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 10:07  15:55

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .31209 | .15219 | .05 | 51 | 20 | F |
| chloromethane | .20812 | .16299 | .05 | 22 | 20 | F |
| vinyl chloride | .26024 | .20953 | .05 | 19 | 20 | |
| bromomethane | .0761 | .04902 | .05 | 36 | 20 | F |
| chloroethane | .17687 | .14413 | .05 | 19 | 20 | |
| trichlorofluoromethane | .44666 | .43832 | .05 | 2 | 20 | |
| ethyl ether | .15011 | .11339 | .05 | 24 | 20 | F |
| acetone | .06576 | .05468 | .05 | 17 | 20 | |
| 1,1,-dichloroethene | .24009 | .19661 | .05 | 18 | 20 | |
| methylene chloride | .26982 | .24022 | .05 | 11 | 20 | |
| carbon disulfide | .79391 | .51482 | .05 | 35 | 20 | F |
| methyl tert butyl ether | .63847 | .46625 | .05 | 27 | 20 | F |
| trans-1,2-dichloroethene | .27344 | .2332 | .05 | 15 | 20 | |
| Diisopropyl Ether | 1.1970 | .97158 | .05 | 19 | 20 | |
| 1,1-dichloroethane | .56559 | .51829 | .05 | 8 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76506 | .64897 | .05 | 15 | 20 | |
| 2-butanone | .09625 | .09258 | .05 | 4 | 20 | |
| 2,2-dichloropropane | 100 | 109 | .05 | -9 | 20 | |
| cis-1,2-dichloroethene | .29296 | .27403 | .05 | 6 | 20 | |
| chloroform | .49791 | .48353 | .05 | 3 | 20 | |
| bromochloromethane | .11801 | .11075 | .05 | 6 | 20 | |
| tetrahydrofuran | .06913 | .04659 | .05 | 33 | 20 | F |
| 1,1,1-trichloroethane | 100 | 90.981 | .05 | 9 | 20 | |
| 1,1-dichloropropene | .40449 | .36032 | .05 | 11 | 20 | |
| carbontetrachloride | 100 | 89.710 | .05 | 10 | 20 | |
| Tertiary-Amyl Methyl Ether | .60434 | .43867 | .05 | 27 | 20 | F |
| 1,2-dichloroethane | .42686 | .4481 | .05 | -5 | 20 | |
| benzene | 1.1467 | 1.0444 | .05 | 9 | 20 | |
| trichloroethene | .30552 | .27429 | .05 | 10 | 20 | |
| 1,2-dichloropropane | .31336 | .29036 | .05 | 7 | 20 | |
| bromodichloromethane | .34326 | .32232 | .05 | 6 | 20 | |
| 1,4-Dioxane | .0016 | .00161 | .05 | -1 | 20 | F |
| dibromomethane | .14397 | .14368 | .05 | 0 | 20 | |
| 4-methyl-2-pentanone | .08373 | .07478 | .05 | 11 | 20 | |
| cis-1,3-dichloropropene | 100 | 76.876 | .05 | 23 | 20 | F |
| toluene | 1.0609 | .95569 | .05 | 10 | 20 | |
| trans-1,3-dichloropropene | 100 | 83.115 | .05 | 17 | 20 | |
| 2-hexanone | .2166 | .2072 | .05 | 4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Elaine.i  Calibration Date: 31-DEC-2010  Time: 08:42

Lab File ID: 1231A01  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 10:07  15:55

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24856 | .24461 | .05 | 2 | 20 | |
| 1,3-dichloropropane | .57238 | .53739 | .05 | 6 | 20 | |
| tetrachloroethene | .39061 | .37389 | .05 | 4 | 20 | |
| chlorodibromomethane | 100 | 81.732 | .05 | 18 | 20 | |
| 1,2-dibromoethane | .27975 | .26886 | .05 | 4 | 20 | |
| chlorobenzene | 1.1332 | 1.0577 | .05 | 7 | 20 | |
| 1,1,1,2-tetrachloroethane | 100 | 88.581 | .05 | 11 | 20 | |
| ethyl benzene | 2.0369 | 1.9925 | .05 | 2 | 20 | |
| p/m xylene | .75611 | .73443 | .05 | 3 | 20 | |
| o xylene | .74076 | .68623 | .05 | 7 | 20 | |
| styrene | 1.2862 | 1.1288 | .05 | 12 | 20 | |
| isopropylbenzene | 1.8993 | 1.8622 | .05 | 2 | 20 | |
| bromoform | 100 | 74.557 | .05 | 25 | 20 | F |
| 1,1,2,2,-tetrachloroethane | .64163 | .59997 | .05 | 6 | 20 | |
| 1,2,3-trichloropropane | .57982 | .54502 | .05 | 6 | 20 | |
| n-propylbenzene | 4.4098 | 4.3543 | .05 | 1 | 20 | |
| bromobenzene | .87686 | .81052 | .05 | 8 | 20 | |
| 1,3,5-trimethybenzene | 3.0540 | 3.0136 | .05 | 1 | 20 | |
| 2-chlorotoluene | 3.1792 | 3.0897 | .05 | 3 | 20 | |
| 4-chorotoluene | 2.9436 | 2.8165 | .05 | 4 | 20 | |
| tert-butylbenzene | .3367 | .36497 | .05 | -8 | 20 | |
| 1,2,4-trimethylbenzene | 2.9183 | 2.8742 | .05 | 2 | 20 | |
| sec-butylbenzene | 3.5774 | 3.6197 | .05 | -1 | 20 | |
| p-isopropyltoluene | 2.7666 | 2.9162 | .05 | -5 | 20 | |
| 1,3-dichlorobenzene | 1.5785 | 1.5069 | .05 | 5 | 20 | |
| 1,4-dichlorobenzene | 1.6018 | 1.5028 | .05 | 6 | 20 | |
| n-butylbenzene | 3.0480 | 3.0418 | .05 | 0 | 20 | |
| 1,2-dichlorobenzene | 1.4610 | 1.3683 | .05 | 6 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 87.379 | .05 | 13 | 20 | |
| 1,2,4-trichlorobenzene | .86573 | .81274 | .05 | 6 | 20 | |
| hexachlorobutadiene | .45034 | .46376 | .05 | -3 | 20 | |
| naphthalene | 1.5073 | 1.4247 | .05 | 5 | 20 | |
| 1,2,3-trichlorobenzene | .73224 | .67405 | .05 | 8 | 20 | |
| dibromofluoromethane | .22916 | .2303 | .05 | 0 | 20 | |
| 1,2-dichloroethane-d4 | .29918 | .32526 | .05 | -9 | 20 | |
| toluene-d8 | 1.3920 | 1.3580 | .05 | 2 | 20 | |
| 4-bromofluorobenzene | 1.0506 | 1.0045 | .05 | 4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 02-JAN-2011  Time: 15:13

Lab File ID: 0102A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .31193 | .1 | 7 | 20 | |
| chloromethane | .4498 | .52242 | .1 | -16 | 20 | |
| vinyl chloride | .32842 | .4024 | .1 | -23 | 20 | F |
| bromomethane | .2618 | .26796 | .1 | -2 | 20 | |
| chloroethane | .26039 | .30126 | .1 | -16 | 20 | |
| trichlorofluoromethane | .53057 | .65164 | .1 | -23 | 20 | F |
| ethyl ether | .11539 | .09546 | .05 | 17 | 20 | |
| acrolien | .00521 | .00912 | .05 | -75 | 20 | F |
| freon-113 | .2988 | .34994 | .1 | -17 | 20 | |
| acetone | .04052 | .05149 | .1 | -27 | 20 | F |
| 1,1,-dichloroethene | .28629 | .25858 | .1 | 10 | 20 | |
| tert-butyl alcohol | .00516 | .00617 | .05 | -20 | 20 | F |
| iodomethane | .37402 | .32579 | .05 | 13 | 20 | |
| methylene chloride | .30757 | .31265 | .1 | -2 | 20 | |
| carbon disulfide | .78949 | .57035 | .1 | 28 | 20 | F |
| acrylonitrile | .05421 | .04521 | .05 | 17 | 20 | |
| methyl tert butyl ether | .38634 | .31721 | .1 | 18 | 20 | |
| Halothane | .21861 | .18541 | .05 | 15 | 20 | |
| trans-1,2-dichloroethene | .32749 | .29899 | .1 | 9 | 20 | |
| Diisopropyl Ether | .8809 | .84639 | .05 | 4 | 20 | |
| vinyl acetate | .44952 | .46338 | .05 | -3 | 20 | |
| 1,1-dichloroethane | .59499 | .59466 | .2 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .48222 | .05 | 13 | 20 | |
| 2-butanone | .05397 | .05944 | .1 | -10 | 20 | F |
| 2,2-dichloropropane | .3505 | .32187 | .05 | 8 | 20 | |
| ethyl acetate | .13699 | .1347 | .05 | 2 | 20 | |
| cis-1,2-dichloroethene | .35294 | .34646 | .1 | 2 | 20 | |
| chloroform | .55513 | .55904 | .2 | -1 | 20 | |
| bromochloromethane | .13022 | .12913 | .05 | 1 | 20 | |
| tetrahydrofuran | .03742 | .02946 | .05 | 21 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .41474 | .1 | 8 | 20 | |
| 1,1-dichloropropene | .44371 | .41089 | .05 | 7 | 20 | |
| carbontetrachloride | .3695 | .33266 | .1 | 10 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .34191 | .05 | 4 | 20 | |
| 1,2-dichloroethane | .32236 | .33468 | .1 | -4 | 20 | |
| benzene | 1.3755 | 1.3685 | .5 | 1 | 20 | |
| trichloroethene | .35538 | .30917 | .2 | 13 | 20 | |
| 1,2-dichloropropane | .29749 | .30785 | .1 | -3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 02-JAN-2011  Time: 15:13

Lab File ID: 0102A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| bromodichloromethane | .31579 | .29016 | .2 | 8 | 20 | |
| 1,4-dioxane | .00101 | .00108 | .05 | -7 | 20 | F |
| dibromomethane | .1201 | .12499 | .05 | -4 | 20 | |
| 2-chloroethylvinyl ether | .08478 | .07635 | .05 | 10 | 20 | |
| 4-methyl-2-pentanone | .04053 | .04114 | .1 | -1 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .29129 | .2 | 17 | 20 | |
| toluene | 1.1592 | 1.1410 | .4 | 2 | 20 | |
| trans-1,3-dichloropropene | 100 | 89.680 | .1 | 10 | 20 | |
| 1,1,2-trichloroethane | .18721 | .19876 | .1 | -6 | 20 | |
| 2-hexanone | .09719 | .1044 | .1 | -7 | 20 | F |
| 1,3-dichloropropane | .40365 | .41286 | .05 | -2 | 20 | |
| tetrachloroethene | .52863 | .5489 | .2 | -4 | 20 | |
| chlorodibromomethane | .23194 | .20198 | .1 | 13 | 20 | |
| 1,2-dibromoethane | .20222 | .19586 | .1 | 3 | 20 | |
| chlorobenzene | 1.2741 | 1.2628 | .5 | 1 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .34476 | .05 | -4 | 20 | |
| ethyl benzene | 2.2828 | 2.3970 | .1 | -5 | 20 | |
| p/m xylene | .92639 | 1.0202 | .1 | -10 | 20 | |
| o xylene | .88623 | .93467 | .3 | -5 | 20 | |
| styrene | 1.3904 | 1.5079 | .31 | -8 | 20 | |
| isopropylbenzene | 2.4070 | 2.3338 | .1 | 3 | 20 | |
| trans-1,4-dichloro-2-butene | .04426 | .04135 | .05 | 7 | 20 | F |
| bromoform | 100 | 76.632 | .1 | 23 | 20 | F |
| 1,1,2,2,-tetrachloroethane | .39202 | .36516 | .3 | 7 | 20 | |
| 1,2,3-trichloropropane | .3082 | .27737 | .05 | 10 | 20 | |
| n-propylbenzene | 4.4117 | 4.1012 | .05 | 7 | 20 | |
| bromobenzene | .84912 | .81837 | .05 | 4 | 20 | |
| 4-ethyltoluene | 1.7912 | 1.9357 | .05 | -8 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8885 | .05 | 7 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7935 | .05 | 6 | 20 | |
| 4-chorotoluene | 2.6913 | 2.5123 | .05 | 7 | 20 | |
| tert-butylbenzene | 2.6420 | 2.3054 | .05 | 13 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 3.0058 | .05 | 2 | 20 | |
| sec-butylbenzene | 3.8323 | 3.4818 | .05 | 9 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.8991 | .05 | 4 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6616 | .6 | 6 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6523 | .5 | 3 | 20 | |
| n-butylbenzene | 3.0901 | 3.0220 | .05 | 2 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 02-JAN-2011  Time: 15:13

Lab File ID: 0102A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,2,4,5-tetramathylbenezene | .87999 | .96823 | .05 | -10 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.4015 | .4 | 5 | 20 | |
| p-diethylbenzene | 100 | 86.039 | .05 | 14 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03031 | .05 | 29 | 20 | F |
| 1,3,5-trichlorobenzene | .88638 | ------ | .01 | --- | 30 | F |
| 1,2,4-trichlorobenzene | .69902 | .51287 | .2 | 27 | 20 | F |
| hexachlorobutadiene | .38351 | .32328 | .05 | 16 | 20 | |
| naphthalene | 100 | 65.436 | .05 | 35 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .37984 | .05 | 27 | 20 | F |
| dibromofluoromethane | .22479 | .23413 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .21976 | .05 | -8 | 20 | |
| toluene-d8 | 1.2342 | 1.3050 | .05 | -6 | 20 | |
| 4-bromofluorobenzene | .76826 | .70129 | .05 | 9 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 02-JAN-2011  Time: 15:45

Lab File ID: 0102A02  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .30351 | .1 | 10 | 20 | |
| chloromethane | .4498 | .48822 | .1 | -9 | 20 | |
| vinyl chloride | .32842 | .37203 | .1 | -13 | 20 | |
| bromomethane | .2618 | .2635 | .1 | -1 | 20 | |
| chloroethane | .26039 | .28245 | .1 | -8 | 20 | |
| trichlorofluoromethane | .53057 | .64832 | .1 | -22 | 20 | F |
| ethyl ether | .11539 | .1006 | .05 | 13 | 20 | |
| acrolien | .00521 | .00909 | .05 | -74 | 20 | F |
| freon-113 | .2988 | .35075 | .1 | -17 | 20 | |
| acetone | .04052 | .04427 | .1 | -9 | 20 | F |
| 1,1,-dichloroethene | .28629 | .26715 | .1 | 7 | 20 | |
| tert-butyl alcohol | .00516 | .00561 | .05 | -9 | 20 | F |
| iodomethane | .37402 | .36922 | .05 | 1 | 20 | |
| methylene chloride | .30757 | .30713 | .1 | 0 | 20 | |
| carbon disulfide | .78949 | .59473 | .1 | 25 | 20 | F |
| acrylonitrile | .05421 | .05192 | .05 | 4 | 20 | |
| methyl tert butyl ether | .38634 | .32428 | .1 | 16 | 20 | |
| Halothane | .21861 | .18292 | .05 | 16 | 20 | |
| trans-1,2-dichloroethene | .32749 | .30333 | .1 | 7 | 20 | |
| Diisopropyl Ether | .8809 | .86671 | .05 | 2 | 20 | |
| vinyl acetate | .44952 | .46251 | .05 | -3 | 20 | |
| 1,1-dichloroethane | .59499 | .57973 | .2 | 3 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .49795 | .05 | 10 | 20 | |
| 2-butanone | .05397 | .06224 | .1 | -15 | 20 | F |
| 2,2-dichloropropane | .3505 | .32412 | .05 | 8 | 20 | |
| ethyl acetate | .13699 | .13112 | .05 | 4 | 20 | |
| cis-1,2-dichloroethene | .35294 | .35187 | .1 | 0 | 20 | |
| chloroform | .55513 | .55156 | .2 | 1 | 20 | |
| bromochloromethane | .13022 | .13372 | .05 | -3 | 20 | |
| tetrahydrofuran | .03742 | .03265 | .05 | 13 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .4235 | .1 | 6 | 20 | |
| 1,1-dichloropropene | .44371 | .40879 | .05 | 8 | 20 | |
| carbontetrachloride | .3695 | .34763 | .1 | 6 | 20 | |
| Tertiary-Amyl Methyl Ether | .35765 | .34042 | .05 | 5 | 20 | |
| 1,2-dichloroethane | .32236 | .32999 | .1 | -2 | 20 | |
| benzene | 1.3755 | 1.3552 | .5 | 1 | 20 | |
| trichloroethene | .35538 | .31364 | .2 | 12 | 20 | |
| 1,2-dichloropropane | .29749 | .29959 | .1 | -1 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 02-JAN-2011  Time: 15:45

Lab File ID: 0102A02  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| bromodichloromethane | .31579 | .29243 | .2 | 7 | 20 | |
| 1,4-dioxane | .00101 | .00104 | .05 | -3 | 20 | F |
| dibromomethane | .1201 | .12649 | .05 | -5 | 20 | |
| 2-chloroethylvinyl ether | .08478 | .07282 | .05 | 14 | 20 | |
| 4-methyl-2-pentanone | .04053 | .04066 | .1 | 0 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .29518 | .2 | 16 | 20 | |
| toluene | 1.1592 | 1.071 | .4 | 8 | 20 | |
| trans-1,3-dichloropropene | 100 | 90.779 | .1 | 9 | 20 | |
| 1,1,2-trichloroethane | .18721 | .18811 | .1 | 0 | 20 | |
| 2-hexanone | .09719 | .10147 | .1 | -4 | 20 | F |
| 1,3-dichloropropane | .40365 | .38917 | .05 | 4 | 20 | |
| tetrachloroethene | .52863 | .51798 | .2 | 2 | 20 | |
| chlorodibromomethane | .23194 | .20142 | .1 | 13 | 20 | |
| 1,2-dibromoethane | .20222 | .18841 | .1 | 7 | 20 | |
| chlorobenzene | 1.2741 | 1.1789 | .5 | 7 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .32686 | .05 | 2 | 20 | |
| ethyl benzene | 2.2828 | 2.2466 | .1 | 2 | 20 | |
| p/m xylene | .92639 | .92779 | .1 | 0 | 20 | |
| o xylene | .88623 | .87968 | .3 | 1 | 20 | |
| styrene | 1.3904 | 1.4128 | .31 | -2 | 20 | |
| isopropylbenzene | 2.4070 | 2.2080 | .1 | 8 | 20 | |
| trans-1,4-dichloro-2-butene | .04426 | .04101 | .05 | 7 | 20 | F |
| bromoform | 100 | 90.156 | .1 | 10 | 20 | |
| 1,1,2,2,-tetrachloroethane | .39202 | .3694 | .3 | 6 | 20 | |
| 1,2,3-trichloropropane | .3082 | .28957 | .05 | 6 | 20 | |
| n-propylbenzene | 4.4117 | 4.1121 | .05 | 7 | 20 | |
| bromobenzene | .84912 | .8191 | .05 | 4 | 20 | |
| 4-ethyltoluene | 1.7912 | 1.8924 | .05 | -6 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8647 | .05 | 7 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.7865 | .05 | 6 | 20 | |
| 4-chorotoluene | 2.6913 | 2.5254 | .05 | 6 | 20 | |
| tert-butylbenzene | 2.6420 | 2.3139 | .05 | 12 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 3.0188 | .05 | 2 | 20 | |
| sec-butylbenzene | 3.8323 | 3.4831 | .05 | 9 | 20 | |
| p-isopropyltoluene | 3.0348 | 2.8642 | .05 | 6 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.6852 | .6 | 4 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6352 | .5 | 4 | 20 | |
| n-butylbenzene | 3.0901 | 2.9580 | .05 | 4 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Quimby.i  Calibration Date: 02-JAN-2011  Time: 15:45

Lab File ID: 0102A02  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,2,4,5-tetramathylbenezene | .87999 | .95048 | .05 | -8 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.4038 | .4 | 5 | 20 | |
| p-diethylbenzene | 100 | 84.805 | .05 | 15 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03267 | .05 | 23 | 20 | F |
| 1,3,5-trichlorobenzene | .88638 | ------ | .01 | --- | 30 | F |
| 1,2,4-trichlorobenzene | .69902 | .51411 | .2 | 26 | 20 | F |
| hexachlorobutadiene | .38351 | .34176 | .05 | 11 | 20 | |
| naphthalene | 100 | 67.740 | .05 | 32 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .38078 | .05 | 27 | 20 | F |
| dibromofluoromethane | .22479 | .23508 | .05 | -5 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .21905 | .05 | -8 | 20 | |
| toluene-d8 | 1.2342 | 1.2499 | .05 | -1 | 20 | |
| 4-bromofluorobenzene | .76826 | .71029 | .05 | 8 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Elaine.i  Calibration Date: 02-JAN-2011  Time: 18:35

Lab File ID: 0102A02  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 10:07  15:55

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .31209 | .20062 | .05 | 36 | 20 | F |
| chloromethane | .20812 | .19575 | .05 | 6 | 20 | |
| vinyl chloride | .26024 | .21915 | .05 | 16 | 20 | |
| bromomethane | .0761 | .0773 | .05 | -2 | 20 | |
| chloroethane | .17687 | .13673 | .05 | 23 | 20 | F |
| trichlorofluoromethane | .44666 | .51214 | .05 | -15 | 20 | |
| ethyl ether | .15011 | .1158 | .05 | 23 | 20 | F |
| acetone | .06576 | .05693 | .05 | 13 | 20 | |
| 1,1,-dichloroethene | .24009 | .21793 | .05 | 9 | 20 | |
| methylene chloride | .26982 | .25598 | .05 | 5 | 20 | |
| carbon disulfide | .79391 | .49294 | .05 | 38 | 20 | F |
| methyl tert butyl ether | .63847 | .46146 | .05 | 28 | 20 | F |
| trans-1,2-dichloroethene | .27344 | .24583 | .05 | 10 | 20 | |
| Diisopropyl Ether | 1.1970 | .96301 | .05 | 20 | 20 | |
| 1,1-dichloroethane | .56559 | .54047 | .05 | 4 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76506 | .64429 | .05 | 16 | 20 | |
| 2-butanone | .09625 | .08676 | .05 | 10 | 20 | |
| 2,2-dichloropropane | 100 | 119 | .05 | -19 | 20 | |
| cis-1,2-dichloroethene | .29296 | .28774 | .05 | 2 | 20 | |
| chloroform | .49791 | .51599 | .05 | -4 | 20 | |
| bromochloromethane | .11801 | .11722 | .05 | 1 | 20 | |
| tetrahydrofuran | .06913 | .04533 | .05 | 34 | 20 | F |
| 1,1,1-trichloroethane | 100 | 104 | .05 | -4 | 20 | |
| 1,1-dichloropropene | .40449 | .38369 | .05 | 5 | 20 | |
| carbontetrachloride | 100 | 108 | .05 | -8 | 20 | |
| Tertiary-Amyl Methyl Ether | .60434 | .44373 | .05 | 27 | 20 | F |
| 1,2-dichloroethane | .42686 | .46923 | .05 | -10 | 20 | |
| benzene | 1.1467 | 1.0877 | .05 | 5 | 20 | |
| trichloroethene | .30552 | .28331 | .05 | 7 | 20 | |
| 1,2-dichloropropane | .31336 | .3029 | .05 | 3 | 20 | |
| bromodichloromethane | .34326 | .36583 | .05 | -7 | 20 | |
| 1,4-Dioxane | .0016 | .0016 | .05 | 0 | 20 | F |
| dibromomethane | .14397 | .14963 | .05 | -4 | 20 | |
| 4-methyl-2-pentanone | .08373 | .07465 | .05 | 11 | 20 | |
| cis-1,3-dichloropropene | 100 | 83.698 | .05 | 16 | 20 | |
| toluene | 1.0609 | .96907 | .05 | 9 | 20 | |
| trans-1,3-dichloropropene | 100 | 89.467 | .05 | 11 | 20 | |
| 2-hexanone | .2166 | .1971 | .05 | 9 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020451

Instrument ID: Elaine.i  Calibration Date: 02-JAN-2011  Time: 18:35

Lab File ID: 0102A02  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 10:07  15:55

| Compound | RRF | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24856 | .23704 | .05 | 5 | 20 |
| 1,3-dichloropropane | .57238 | .52973 | .05 | 7 | 20 |
| tetrachloroethene | .39061 | .37621 | .05 | 4 | 20 |
| chlorodibromomethane | 100 | 92.323 | .05 | 8 | 20 |
| 1,2-dibromoethane | .27975 | .27448 | .05 | 2 | 20 |
| chlorobenzene | 1.1332 | 1.0647 | .05 | 6 | 20 |
| 1,1,1,2-tetrachloroethane | 100 | 97.735 | .05 | 2 | 20 |
| ethyl benzene | 2.0369 | 2.0062 | .05 | 2 | 20 |
| p/m xylene | .75611 | .74569 | .05 | 1 | 20 |
| o xylene | .74076 | .69485 | .05 | 6 | 20 |
| styrene | 1.2862 | 1.1607 | .05 | 10 | 20 |
| isopropylbenzene | 1.8993 | 1.8637 | .05 | 2 | 20 |
| bromoform | 100 | 89.906 | .05 | 10 | 20 |
| 1,1,2,2,-tetrachloroethane | .64163 | .59703 | .05 | 7 | 20 |
| 1,2,3-trichloropropane | .57982 | .52989 | .05 | 9 | 20 |
| n-propylbenzene | 4.4098 | 4.3106 | .05 | 2 | 20 |
| bromobenzene | .87686 | .83667 | .05 | 5 | 20 |
| 1,3,5-trimethybenzene | 3.0540 | 2.9815 | .05 | 2 | 20 |
| 2-chlorotoluene | 3.1792 | 3.121 | .05 | 2 | 20 |
| 4-chorotoluene | 2.9436 | 2.8772 | .05 | 2 | 20 |
| tert-butylbenzene | .3367 | .3501 | .05 | -4 | 20 |
| 1,2,4-trimethylbenzene | 2.9183 | 2.8367 | .05 | 3 | 20 |
| sec-butylbenzene | 3.5774 | 3.5490 | .05 | 1 | 20 |
| p-isopropyltoluene | 2.7666 | 2.8233 | .05 | -2 | 20 |
| 1,3-dichlorobenzene | 1.5785 | 1.4968 | .05 | 5 | 20 |
| 1,4-dichlorobenzene | 1.6018 | 1.5483 | .05 | 3 | 20 |
| n-butylbenzene | 3.0480 | 2.9426 | .05 | 3 | 20 |
| 1,2-dichlorobenzene | 1.4610 | 1.3880 | .05 | 5 | 20 |
| 1,2-dibromo-3-chloropropane | 100 | 94.047 | .05 | 6 | 20 |
| 1,2,4-trichlorobenzene | .86573 | .79895 | .05 | 8 | 20 |
| hexachlorobutadiene | .45034 | .46733 | .05 | -4 | 20 |
| naphthalene | 1.5073 | 1.3589 | .05 | 10 | 20 |
| 1,2,3-trichlorobenzene | .73224 | .66287 | .05 | 9 | 20 |
| dibromofluoromethane | .22916 | .23851 | .05 | -4 | 20 |
| 1,2-dichloroethane-d4 | .29918 | .33014 | .05 | -10 | 20 |
| toluene-d8 | 1.3920 | 1.3729 | .05 | 1 | 20 |
| 4-bromofluorobenzene | 1.0506 | 1.0136 | .05 | 4 | 20 |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1020516 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 01/03/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020516
**Report Date:** 01/03/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1020516-01 | APS-134-58.0-20101222-01 | WAYLAND, MA | 12/22/10 16:55 |
| L1020516-02 | APS-133-52.9-20101222-01 | WAYLAND, MA | 12/22/10 17:22 |
| L1020516-03 | APS-133-58.0-20101223-01 | WAYLAND, MA | 12/23/10 08:27 |
| L1020516-04 | APS-134-63.4-20101223-01 | WAYLAND, MA | 12/23/10 08:39 |
| L1020516-05 | APS-133-63.2-20101223-01 | WAYLAND, MA | 12/23/10 09:16 |
| L1020516-06 | APS-134-68.2-20101223-01 | WAYLAND, MA | 12/23/10 09:56 |
| L1020516-07 | APS-133-68.2-20101223-01 | WAYLAND, MA | 12/23/10 10:05 |
| L1020516-08 | APS-133-73.2-20101223-01 | WAYLAND, MA | 12/23/10 11:01 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516
**Project Number:** 0114119 **Report Date:** 01/03/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG449995-1/-2 LCS/LCSD recoveries, associated with L1020516-01 through -08, are outside the individual acceptance criteria for several compounds, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially high bias for Carbon tetrachloride (LCSD at 131%) and Trichlorofluoromethane (LCSD at 133%), and a potentially low bias for Tetrahydrofuran (66%/60%) and Ethyl ether (LCSD at 69%).

The WG449995-1/-2 LCS/LCSD recoveries, associated with L1020516-01 through -08, are outside the acceptance criteria for several compounds; however, they have been identified as "difficult" analytes and are

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020516 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

**Case Narrative (continued)**

within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for Dichlorodifluoromethane (LCS at 64%) and Carbon disulfide (65%/62%), and a potentially high bias for 2,2-Dichloropropane (LCSD at 134%).

The initial calibration, associated with L1020516-01 through -08, did not meet the method required minimum response factor for 1,4-Dioxane (0.0016).

The continuing calibration standard, associated with L1020516-01 through -08, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 01/03/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-01 | Date Collected: | 12/22/10 16:55 |
| Client ID: | APS-134-58.0-20101222-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 21:28 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 4.2 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 3.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 24 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-01 Date Collected: 12/22/10 16:55

Client ID: APS-134-58.0-20101222-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 2.9 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-01 | Date Collected: | 12/22/10 16:55 |
| Client ID: | APS-134-58.0-20101222-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-02 | Date Collected: | 12/22/10 17:22 |
| Client ID: | APS-133-52.9-20101222-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 22:02 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-02 Date Collected: 12/22/10 17:22

Client ID: APS-133-52.9-20101222-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-02 | Date Collected: | 12/22/10 17:22 |
| Client ID: | APS-133-52.9-20101222-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-03 | Date Collected: | 12/23/10 08:27 |
| Client ID: | APS-133-58.0-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 22:37 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-03 Date Collected: 12/23/10 08:27

Client ID: APS-133-58.0-20101223-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-03 | Date Collected: | 12/23/10 08:27 |
| Client ID: | APS-133-58.0-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 122 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-04 | Date Collected: | 12/23/10 08:39 |
| Client ID: | APS-134-63.4-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 23:11 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 6.4 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 35 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-04 Date Collected: 12/23/10 08:39

Client ID: APS-134-63.4-20101223-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | 2.6 | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-04 | Date Collected: | 12/23/10 08:39 |
| Client ID: | APS-134-63.4-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-05 | Date Collected: | 12/23/10 09:16 |
| Client ID: | APS-133-63.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/02/11 23:46 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-05 Date Collected: 12/23/10 09:16

Client ID: APS-133-63.2-20101223-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-05 | Date Collected: | 12/23/10 09:16 |
| Client ID: | APS-133-63.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 121 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-06 | Date Collected: | 12/23/10 09:56 |
| Client ID: | APS-134-68.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 00:20 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.1 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 66 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-06 Date Collected: 12/23/10 09:56

Client ID: APS-134-68.2-20101223-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 4.0 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-06 | Date Collected: | 12/23/10 09:56 |
| Client ID: | APS-134-68.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 123 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-07 | Date Collected: | 12/23/10 10:05 |
| Client ID: | APS-133-68.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 00:55 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.8 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-07 Date Collected: 12/23/10 10:05

Client ID: APS-133-68.2-20101223-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-07 | Date Collected: | 12/23/10 10:05 |
| Client ID: | APS-133-68.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 128 | | 70-130 |
| Toluene-d8 | 92 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-08 | Date Collected: | 12/23/10 11:01 |
| Client ID: | APS-133-73.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 01/03/11 01:29 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

Lab ID: L1020516-08 Date Collected: 12/23/10 11:01

Client ID: APS-133-73.2-20101223-01 Date Received: 12/23/10

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.2 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1020516-08 | Date Collected: | 12/23/10 11:01 |
| Client ID: | APS-133-73.2-20101223-01 | Date Received: | 12/23/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 113 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 19:09
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-08 Batch: WG449995-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 19:09
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-08 Batch: WG449995-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516

**Project Number:** 0114119 **Report Date:** 01/03/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 01/02/11 19:09
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-08 Batch: WG449995-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

Tentatively Identified Compounds

| | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 96 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020516
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| Methylene chloride | 95 | | 93 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 96 | | 101 | | 70-130 | 5 | | 20 |
| Chloroform | 104 | | 116 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 108 | | **131** | Q | 70-130 | 19 | | 20 |
| 1,2-Dichloropropane | 97 | | 92 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 92 | | 100 | | 70-130 | 8 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 90 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 96 | | 102 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| Trichlorofluoromethane | 115 | | **133** | Q | 70-130 | 15 | | 20 |
| 1,2-Dichloroethane | 110 | | 128 | | 70-130 | 15 | | 20 |
| 1,1,1-Trichloroethane | 104 | | 123 | | 70-130 | 17 | | 20 |
| Bromodichloromethane | 106 | | 123 | | 70-130 | 15 | | 20 |
| trans-1,3-Dichloropropene | 90 | | 95 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 84 | | 92 | | 70-130 | 9 | | 20 |
| 1,1-Dichloropropene | 95 | | 102 | | 70-130 | 7 | | 20 |
| Bromoform | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 87 | | 70-130 | 7 | | 20 |
| Benzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| Toluene | 91 | | 90 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 98 | | 103 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020516
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| Chloromethane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Bromomethane | 102 | | 123 | | 70-130 | 19 | | 20 |
| Vinyl chloride | 84 | | 90 | | 70-130 | 7 | | 20 |
| Chloroethane | 77 | | 84 | | 70-130 | 9 | | 20 |
| 1,1-Dichloroethene | 91 | | 93 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 90 | | 94 | | 70-130 | 4 | | 20 |
| Trichloroethene | 93 | | 102 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 72 | | 77 | | 70-130 | 7 | | 20 |
| p/m-Xylene | 99 | | 100 | | 70-130 | 1 | | 20 |
| o-Xylene | 94 | | 94 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 101 | | 70-130 | 3 | | 20 |
| Dibromomethane | 104 | | 113 | | 70-130 | 8 | | 20 |
| 1,2,3-Trichloropropane | 91 | | 87 | | 70-130 | 4 | | 20 |
| Styrene | 90 | | 92 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | **64** | Q | 76 | | 70-130 | 17 | | 20 |
| Acetone | 87 | | 91 | | 70-130 | 4 | | 20 |
| Carbon disulfide | **62** | Q | **65** | Q | 70-130 | 5 | | 20 |
| 2-Butanone | 90 | | 93 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020516
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 88 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 91 | | 86 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 99 | | 105 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | **66** | Q | **60** | Q | 70-130 | 10 | | 20 |
| 2,2-Dichloropropane | 119 | | **134** | Q | 70-130 | 12 | | 20 |
| 1,2-Dibromoethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 92 | | 91 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 106 | | 70-130 | 8 | | 20 |
| Bromobenzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 96 | | 102 | | 70-130 | 6 | | 20 |
| sec-Butylbenzene | 99 | | 102 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 104 | | 104 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 94 | | 95 | | 70-130 | 1 | | 20 |
| Hexachlorobutadiene | 104 | | 115 | | 70-130 | 10 | | 20 |
| Isopropylbenzene | 98 | | 104 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 102 | | 107 | | 70-130 | 5 | | 20 |
| Naphthalene | 90 | | 80 | | 70-130 | 12 | | 20 |
| n-Propylbenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 90 | | 84 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119
**Lab Number:** L1020516
**Report Date:** 01/03/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-08 Batch: WG449995-1 WG449995-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 98 | | 101 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Ethyl ether | 77 | | **69** | Q | 70-130 | 11 | | 20 |
| Isopropyl Ether | 80 | | 84 | | 70-130 | 5 | | 20 |
| Ethyl-Tert-Butyl-Ether | 84 | | 91 | | 70-130 | 8 | | 20 |
| Tertiary-Amyl Methyl Ether | 73 | | 78 | | 70-130 | 7 | | 20 |
| 1,4-Dioxane | 100 | | 100 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 129 | | 70-130 |
| Toluene-d8 | 99 | | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 97 | | 70-130 |
| Dibromofluoromethane | 104 | | 114 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0114119

**Lab Number:** L1020516
**Report Date:** 01/03/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1020516-01A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-01B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-02A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-02B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-03A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-03B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-04A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-04B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-05A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-05B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-06A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-06B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-07A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-07B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-08A | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |
| L1020516-08B | Vial HCl preserved | A | N/A | 3.5 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020516 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1020516 |
| **Project Number:** | 0114119 | **Report Date:** | 01/03/11 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1020516
**Project Number:** 0114119 **Report Date:** 01/03/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial No:01031113:53

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/23/10

ALPHA Job #: L1020516

## Client Information

Client: ERM

Address: 399 Boylston St. Boston MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: JASON.FLATTERY@ERM.COM

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: RAYTHEON-WAYLAND

Project Location: WAYLAND, MA

Project #: 0114119

Project Manager: JASON FLATTERY

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 12/01/03/11 Time:

## Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOC 8260

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8260 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 20516. 1 | APS-134-58.0-20101222-01 | 2010/12/22 | 1655 | GW | LJM | 2 | | |
| 2 | APS-133-58.0-20101222-01 | ↓ | 1722 | ↓ | ↓ | ↓ | | |
| 3 | APS-133-58.0-20101223-01 | 2010/12/23 | 0827 | | | | | |
| 4 | APS-134-63.4-20101223-01 | | 0839 | | | | | |
| 5 | APS-133-63.2-20101223-01 | | 0916 | | | | | |
| 6 | APS-134-68.2-20101223-01 | | 0956 | | | | | |
| 7 | APS-133-68.2-20101223-01 | | 1005 | | | | | |
| 8 | APS-133-73.2-20101223-01 | | 1101 | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | |
|---|---|
| Container Type | VIAL |
| Preservative | HCL |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 2010/12/22 1250 | [illegible] | 12-23-10 12:50 |
| [illegible] | 12-23-10 200 | [illegible] | 12/23/10 1400 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020516

Instrument ID: Elaine.i  Calibration Date: 02-JAN-2011  Time: 18:35

Lab File ID: 0102A02  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 10:07  15:55

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .31209 | .20062 | .05 | 36 | 20 | F |
| chloromethane | .20812 | .19575 | .05 | 6 | 20 | |
| vinyl chloride | .26024 | .21915 | .05 | 16 | 20 | |
| bromomethane | .0761 | .0773 | .05 | -2 | 20 | |
| chloroethane | .17687 | .13673 | .05 | 23 | 20 | F |
| trichlorofluoromethane | .44666 | .51214 | .05 | -15 | 20 | |
| ethyl ether | .15011 | .1158 | .05 | 23 | 20 | F |
| acetone | .06576 | .05693 | .05 | 13 | 20 | |
| 1,1,-dichloroethene | .24009 | .21793 | .05 | 9 | 20 | |
| methylene chloride | .26982 | .25598 | .05 | 5 | 20 | |
| carbon disulfide | .79391 | .49294 | .05 | 38 | 20 | F |
| methyl tert butyl ether | .63847 | .46146 | .05 | 28 | 20 | F |
| trans-1,2-dichloroethene | .27344 | .24583 | .05 | 10 | 20 | |
| Diisopropyl Ether | 1.1970 | .96301 | .05 | 20 | 20 | |
| 1,1-dichloroethane | .56559 | .54047 | .05 | 4 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76506 | .64429 | .05 | 16 | 20 | |
| 2-butanone | .09625 | .08676 | .05 | 10 | 20 | |
| 2,2-dichloropropane | 100 | 119 | .05 | -19 | 20 | |
| cis-1,2-dichloroethene | .29296 | .28774 | .05 | 2 | 20 | |
| chloroform | .49791 | .51599 | .05 | -4 | 20 | |
| bromochloromethane | .11801 | .11722 | .05 | 1 | 20 | |
| tetrahydrofuran | .06913 | .04533 | .05 | 34 | 20 | F |
| 1,1,1-trichloroethane | 100 | 104 | .05 | -4 | 20 | |
| 1,1-dichloropropene | .40449 | .38369 | .05 | 5 | 20 | |
| carbontetrachloride | 100 | 108 | .05 | -8 | 20 | |
| Tertiary-Amyl Methyl Ether | .60434 | .44373 | .05 | 27 | 20 | F |
| 1,2-dichloroethane | .42686 | .46923 | .05 | -10 | 20 | |
| benzene | 1.1467 | 1.0877 | .05 | 5 | 20 | |
| trichloroethene | .30552 | .28331 | .05 | 7 | 20 | |
| 1,2-dichloropropane | .31336 | .3029 | .05 | 3 | 20 | |
| bromodichloromethane | .34326 | .36583 | .05 | -7 | 20 | |
| 1,4-Dioxane | .0016 | .0016 | .05 | 0 | 20 | F |
| dibromomethane | .14397 | .14963 | .05 | -4 | 20 | |
| 4-methyl-2-pentanone | .08373 | .07465 | .05 | 11 | 20 | |
| cis-1,3-dichloropropene | 100 | 83.698 | .05 | 16 | 20 | |
| toluene | 1.0609 | .96907 | .05 | 9 | 20 | |
| trans-1,3-dichloropropene | 100 | 89.467 | .05 | 11 | 20 | |
| 2-hexanone | .2166 | .1971 | .05 | 9 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1020516

Instrument ID: Elaine.i  Calibration Date: 02-JAN-2011  Time: 18:35

Lab File ID: 0102A02  Init. Calib. Date(s): 20-SEP-2  20-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 10:07  15:55

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24856 | .23704 | .05 | 5 | 20 |
| 1,3-dichloropropane | .57238 | .52973 | .05 | 7 | 20 |
| tetrachloroethene | .39061 | .37621 | .05 | 4 | 20 |
| chlorodibromomethane | 100 | 92.323 | .05 | 8 | 20 |
| 1,2-dibromoethane | .27975 | .27448 | .05 | 2 | 20 |
| chlorobenzene | 1.1332 | 1.0647 | .05 | 6 | 20 |
| 1,1,1,2-tetrachloroethane | 100 | 97.735 | .05 | 2 | 20 |
| ethyl benzene | 2.0369 | 2.0062 | .05 | 2 | 20 |
| p/m xylene | .75611 | .74569 | .05 | 1 | 20 |
| o xylene | .74076 | .69485 | .05 | 6 | 20 |
| styrene | 1.2862 | 1.1607 | .05 | 10 | 20 |
| isopropylbenzene | 1.8993 | 1.8637 | .05 | 2 | 20 |
| bromoform | 100 | 89.906 | .05 | 10 | 20 |
| 1,1,2,2,-tetrachloroethane | .64163 | .59703 | .05 | 7 | 20 |
| 1,2,3-trichloropropane | .57982 | .52989 | .05 | 9 | 20 |
| n-propylbenzene | 4.4098 | 4.3106 | .05 | 2 | 20 |
| bromobenzene | .87686 | .83667 | .05 | 5 | 20 |
| 1,3,5-trimethybenzene | 3.0540 | 2.9815 | .05 | 2 | 20 |
| 2-chlorotoluene | 3.1792 | 3.121 | .05 | 2 | 20 |
| 4-chorotoluene | 2.9436 | 2.8772 | .05 | 2 | 20 |
| tert-butylbenzene | .3367 | .3501 | .05 | -4 | 20 |
| 1,2,4-trimethylbenzene | 2.9183 | 2.8367 | .05 | 3 | 20 |
| sec-butylbenzene | 3.5774 | 3.5490 | .05 | 1 | 20 |
| p-isopropyltoluene | 2.7666 | 2.8233 | .05 | -2 | 20 |
| 1,3-dichlorobenzene | 1.5785 | 1.4968 | .05 | 5 | 20 |
| 1,4-dichlorobenzene | 1.6018 | 1.5483 | .05 | 3 | 20 |
| n-butylbenzene | 3.0480 | 2.9426 | .05 | 3 | 20 |
| 1,2-dichlorobenzene | 1.4610 | 1.3880 | .05 | 5 | 20 |
| 1,2-dibromo-3-chloropropane | 100 | 94.047 | .05 | 6 | 20 |
| 1,2,4-trichlorobenzene | .86573 | .79895 | .05 | 8 | 20 |
| hexachlorobutadiene | .45034 | .46733 | .05 | -4 | 20 |
| naphthalene | 1.5073 | 1.3589 | .05 | 10 | 20 |
| 1,2,3-trichlorobenzene | .73224 | .66287 | .05 | 9 | 20 |
| dibromofluoromethane | .22916 | .23851 | .05 | -4 | 20 |
| 1,2-dichloroethane-d4 | .29918 | .33014 | .05 | -10 | 20 |
| toluene-d8 | 1.3920 | 1.3729 | .05 | 1 | 20 |
| 4-bromofluorobenzene | 1.0506 | 1.0136 | .05 | 4 | 20 |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1019387 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/07/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019387
**Report Date:** 12/07/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1019387-01 | IDW-501-502-20101206-01 | WAYLAND, MA | 12/06/10 12:00 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387

**Project Number:** 0114119 **Report Date:** 12/07/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387
**Project Number:** 0114119 **Report Date:** 12/07/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Report Submission

This report replaces the report issued earlier today. At the client's request, a project number has been added.

Volatile Organics

In reference to question H:

The initial calibration, associated with L1019387-01, utilized a quadratic fit for trans-1,3-Dichloropropene and Bromoform.

The continuing calibration standard, associated with L1019387-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/07/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387

**Project Number:** 0114119 **Report Date:** 12/07/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019387-01 | Date Collected: | 12/06/10 12:00 |
| Client ID: | IDW-501-502-20101206-01 | Date Received: | 12/06/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/07/10 09:27 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 3.3 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387

**Project Number:** 0114119 **Report Date:** 12/07/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019387-01 | Date Collected: | 12/06/10 12:00 |
| Client ID: | IDW-501-502-20101206-01 | Date Received: | 12/06/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387

**Project Number:** 0114119 **Report Date:** 12/07/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/07/10 06:18
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG446538-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387

**Project Number:** 0114119 **Report Date:** 12/07/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/07/10 06:18
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG446538-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387

**Project Number:** 0114119 **Report Date:** 12/07/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/07/10 06:18
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG446538-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019387
**Report Date:** 12/07/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG446538-1 WG446538-2 | | | | | | | | |
| Methylene chloride | 93 | | 96 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 89 | | 91 | | 70-130 | 2 | | 20 |
| Chloroform | 91 | | 93 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 78 | | 87 | | 70-130 | 11 | | 20 |
| 1,2-Dichloropropane | 93 | | 93 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 80 | | 87 | | 70-130 | 8 | | 20 |
| 1,1,2-Trichloroethane | 99 | | 96 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 99 | | 99 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 94 | | 101 | | 70-130 | 7 | | 20 |
| 1,2-Dichloroethane | 92 | | 97 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 83 | | 88 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 85 | | 90 | | 70-130 | 6 | | 20 |
| trans-1,3-Dichloropropene | 86 | | 90 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 78 | | 84 | | 70-130 | 7 | | 20 |
| 1,1-Dichloropropene | 89 | | 90 | | 70-130 | 1 | | 20 |
| Bromoform | 79 | | 86 | | 70-130 | 8 | | 20 |
| 1,1,2,2-Tetrachloroethane | 88 | | 91 | | 70-130 | 3 | | 20 |
| Benzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| Toluene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 99 | | 98 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019387
**Report Date:** 12/07/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG446538-1 WG446538-2 | | | | | | | | |
| Chloromethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| Bromomethane | 70 | | 76 | | 70-130 | 8 | | 20 |
| Vinyl chloride | 88 | | 90 | | 70-130 | 2 | | 20 |
| Chloroethane | 90 | | 93 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethene | 91 | | 92 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 88 | | 88 | | 70-130 | 0 | | 20 |
| Trichloroethene | 86 | | 87 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 97 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 82 | | 86 | | 70-130 | 5 | | 20 |
| p/m-Xylene | 100 | | 100 | | 70-130 | 0 | | 20 |
| o-Xylene | 97 | | 96 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Dibromomethane | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 88 | | 92 | | 70-130 | 4 | | 20 |
| Styrene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Acetone | 101 | | 101 | | 70-130 | 0 | | 20 |
| Carbon disulfide | **64** | Q | 70 | | 70-130 | 9 | | 20 |
| 2-Butanone | 92 | | 93 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019387
**Report Date:** 12/07/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG446538-1 WG446538-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 76 | | 87 | | 70-130 | 13 | | 20 |
| 2-Hexanone | 86 | | 92 | | 70-130 | 7 | | 20 |
| Bromochloromethane | 96 | | 94 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 79 | | 84 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 82 | | 85 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 93 | | 98 | | 70-130 | 5 | | 20 |
| 1,3-Dichloropropane | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 89 | | 94 | | 70-130 | 5 | | 20 |
| Bromobenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| n-Butylbenzene | 86 | | 83 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 100 | | 95 | | 70-130 | 5 | | 20 |
| tert-Butylbenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 95 | | 93 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 95 | | 94 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 75 | | 75 | | 70-130 | 0 | | 20 |
| Hexachlorobutadiene | 100 | | 102 | | 70-130 | 2 | | 20 |
| Isopropylbenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 106 | | 102 | | 70-130 | 4 | | 20 |
| Naphthalene | 78 | | 81 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 96 | | 94 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 83 | | 87 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019387
**Report Date:** 12/07/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG446538-1 WG446538-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 88 | | 90 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 101 | | 97 | | 70-130 | 4 | | 20 |
| Ethyl ether | 89 | | 91 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 92 | | 92 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 86 | | 89 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 100 | | 95 | | 70-130 | 5 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 99 | | 70-130 |
| Toluene-d8 | 104 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 99 | | 70-130 |
| Dibromofluoromethane | 101 | | 102 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019387
**Report Date:** 12/07/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1019387-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019387-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019387 |
| **Project Number:** | 0114119 | **Report Date:** | 12/07/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019387 |
| **Project Number:** | 0114119 | **Report Date:** | 12/07/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019387
**Project Number:** 0114119 **Report Date:** 12/07/10

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/6/10

ALPHA Job #: L1019387

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston St, 6th Floor Boston, MA 02126
Phone: (617) 448-0782
Fax:
Email: jason.flattery@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon, Wayland
Project Location: Wayland, MA
Project #:
Project Manager: Jason Flattery
ALPHA Quote #:

**Turn-Around Time**

☐ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 24-48 hrs turnaround time
Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program MA/MCP Criteria GW-1

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS 8021 by 8260 | SAMPLE HANDLING (Filtration / Preservation) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 9387-01 | IDW-501-502-20101206-01 | 12/6/10 | 12:00 | GW | HEA | 2 | | | 2 |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

| | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|
| | [signature] | 12/6/10; 15:35 | [signature] | 12/6/10 15:3 |

Container Type: V
Preservative: B

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:12071019:44

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1019387

Instrument ID: Quimby.i  Calibration Date: 07-DEC-2010  Time: 05:15

Lab File ID: 1207A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .33635 | .3242 | .1 | 4 | 20 | |
| chloromethane | .4498 | .42135 | .1 | 6 | 20 | |
| vinyl chloride | .32842 | .29039 | .1 | 12 | 20 | |
| bromomethane | .2618 | .18467 | .1 | 29 | 20 | F |
| chloroethane | .26039 | .23548 | .1 | 10 | 20 | |
| trichlorofluoromethane | .53057 | .49763 | .1 | 6 | 20 | |
| ethyl ether | .11539 | .10323 | .05 | 11 | 20 | |
| acetone | .04052 | .04103 | .1 | -1 | 20 | F |
| 1,1,-dichloroethene | .28629 | .26182 | .1 | 9 | 20 | |
| methylene chloride | .30757 | .28644 | .1 | 7 | 20 | |
| carbon disulfide | .78949 | .50862 | .1 | 36 | 20 | F |
| methyl tert butyl ether | .38634 | .31652 | .1 | 18 | 20 | |
| trans-1,2-dichloroethene | .32749 | .28974 | .1 | 12 | 20 | |
| Diisopropyl Ether | .8809 | .81336 | .05 | 8 | 20 | |
| 1,1-dichloroethane | .59499 | .52733 | .2 | 11 | 20 | |
| Ethyl-Tert-Butyl-Ether | .55277 | .47441 | .05 | 14 | 20 | |
| 2-butanone | .05397 | .04978 | .1 | 8 | 20 | F |
| 2,2-dichloropropane | .3505 | .28613 | .05 | 18 | 20 | |
| cis-1,2-dichloroethene | .35294 | .33043 | .1 | 6 | 20 | |
| chloroform | .55513 | .50277 | .2 | 9 | 20 | |
| bromochloromethane | .13022 | .12467 | .05 | 4 | 20 | |
| tetrahydrofuran | .03742 | .02952 | .05 | 21 | 20 | F |
| 1,1,1-trichloroethane | .44884 | .37375 | .1 | 17 | 20 | |
| 1,1-dichloropropene | .44371 | .39627 | .05 | 11 | 20 | |
| carbontetrachloride | .3695 | .28898 | .1 | 22 | 20 | F |
| Tertiary-Amyl Methyl Ether | .35765 | .32598 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .32236 | .29654 | .1 | 8 | 20 | |
| benzene | 1.3755 | 1.2746 | .5 | 7 | 20 | |
| trichloroethene | .35538 | .30577 | .2 | 14 | 20 | |
| 1,2-dichloropropane | .29749 | .27581 | .1 | 7 | 20 | |
| bromodichloromethane | .31579 | .26708 | .2 | 15 | 20 | |
| 1,4-dioxane | .00101 | .00102 | .05 | 0 | 20 | F |
| dibromomethane | .1201 | .11358 | .05 | 5 | 20 | |
| 4-methyl-2-pentanone | .04053 | .03091 | .1 | 24 | 20 | F |
| cis-1,3-dichloropropene | .3507 | .27312 | .2 | 22 | 20 | F |
| toluene | 1.1592 | 1.0671 | .4 | 8 | 20 | |
| trans-1,3-dichloropropene | 100 | 85.515 | .1 | 14 | 20 | |
| 1,1,2-trichloroethane | .18721 | .18568 | .1 | 1 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1019387

Instrument ID: Quimby.i  Calibration Date: 07-DEC-2010  Time: 05:15

Lab File ID: 1207A01  Init. Calib. Date(s): 29-NOV-2  29-NOV-2

Sample No: 8260 CCAL  Init. Calib. Times : 06:11  09:52

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .09719 | .08396 | .1 | 14 | 20 | F |
| 1,3-dichloropropane | .40365 | .38692 | .05 | 4 | 20 | |
| tetrachloroethene | .52863 | .52568 | .2 | 1 | 20 | |
| chlorodibromomethane | .23194 | .18607 | .1 | 20 | 20 | |
| 1,2-dibromoethane | .20222 | .18762 | .1 | 7 | 20 | |
| chlorobenzene | 1.2741 | 1.1865 | .5 | 7 | 20 | |
| 1,1,1,2-tetrachloroethane | .33306 | .29684 | .05 | 11 | 20 | |
| ethyl benzene | 2.2828 | 2.2504 | .1 | 1 | 20 | |
| p/m xylene | .92639 | .93187 | .1 | -1 | 20 | |
| o xylene | .88623 | .85891 | .3 | 3 | 20 | |
| styrene | 1.3904 | 1.3275 | .31 | 5 | 20 | |
| isopropylbenzene | 2.4070 | 2.3317 | .1 | 3 | 20 | |
| bromoform | 100 | 79.216 | .1 | 21 | 20 | F |
| 1,1,2,2,-tetrachloroethane | .39202 | .34672 | .3 | 12 | 20 | |
| 1,2,3-trichloropropane | .3082 | .27058 | .05 | 12 | 20 | |
| n-propylbenzene | 4.4117 | 4.2576 | .05 | 3 | 20 | |
| bromobenzene | .84912 | .82875 | .05 | 2 | 20 | |
| 1,3,5-trimethybenzene | 3.0947 | 2.8677 | .05 | 7 | 20 | |
| 2-chlorotoluene | 2.9635 | 2.8249 | .05 | 5 | 20 | |
| 4-chorotoluene | 2.6913 | 2.5676 | .05 | 5 | 20 | |
| tert-butylbenzene | 2.6420 | 2.5255 | .05 | 4 | 20 | |
| 1,2,4-trimethylbenzene | 3.0728 | 3.1075 | .05 | -1 | 20 | |
| sec-butylbenzene | 3.8323 | 3.8339 | .05 | 0 | 20 | |
| p-isopropyltoluene | 3.0348 | 3.2031 | .05 | -6 | 20 | |
| 1,3-dichlorobenzene | 1.7623 | 1.7067 | .6 | 3 | 20 | |
| 1,4-dichlorobenzene | 1.7106 | 1.6816 | .5 | 2 | 20 | |
| n-butylbenzene | 3.0901 | 2.6683 | .05 | 14 | 20 | |
| 1,2-dichlorobenzene | 1.4701 | 1.4109 | .4 | 4 | 20 | |
| 1,2-dibromo-3-chloropropane | .04255 | .03203 | .05 | 25 | 20 | F |
| 1,2,4-trichlorobenzene | .69902 | .61213 | .2 | 12 | 20 | |
| hexachlorobutadiene | .38351 | .38169 | .05 | 0 | 20 | |
| naphthalene | 100 | 77.747 | .05 | 22 | 20 | F |
| 1,2,3-trichlorobenzene | .52089 | .4336 | .05 | 17 | 20 | |
| dibromofluoromethane | .22479 | .22746 | .05 | -1 | 20 | |
| 1,2-dichloroethane-d4 | .20346 | .20506 | .05 | -1 | 20 | |
| toluene-d8 | 1.2342 | 1.2799 | .05 | -4 | 20 | |
| 4-bromofluorobenzene | .76826 | .75888 | .05 | 1 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1019909 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0114119 |
| Report Date: | 12/16/10 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1019909-01 | MW-501M-20101214-01 | WAYLAND, MA | 12/14/10 09:30 |
| L1019909-02 | DUP-001-20101214-01 | WAYLAND, MA | 12/14/10 11:11 |
| L1019909-03 | MW-501B-20101214-01 | WAYLAND, MA | 12/14/10 11:10 |
| L1019909-04 | MW-502B-20101214-01 | WAYLAND, MA | 12/14/10 13:15 |
| L1019909-05 | MW-502M-20101214-01 | WAYLAND, MA | 12/14/10 14:15 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | NO |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909
**Project Number:** 0114119 **Report Date:** 12/16/10

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Sample Receipt

In reference to question A:

The samples were received frozen. The analysis proceeded at the client's request.

Volatile Organics

In reference to question H:

The initial calibration, associated with L1019909-01 through -05, utilized a quadratic fit for trans-1,3-Dichloropropene and Bromoform.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 12/16/10

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-01 | Date Collected: | 12/14/10 09:30 |
| Client ID: | MW-501M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 15:32 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-01 | Date Collected: | 12/14/10 09:30 |
| Client ID: | MW-501M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-02 | Date Collected: | 12/14/10 11:11 |
| Client ID: | DUP-001-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 16:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-02 | Date Collected: | 12/14/10 11:11 |
| Client ID: | DUP-001-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-03 | Date Collected: | 12/14/10 11:10 |
| Client ID: | MW-501B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 16:35 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-03 | Date Collected: | 12/14/10 11:10 |
| Client ID: | MW-501B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-04 | Date Collected: | 12/14/10 13:15 |
| Client ID: | MW-502B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/16/10 06:42 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-04 | Date Collected: | 12/14/10 13:15 |
| Client ID: | MW-502B-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-05 | Date Collected: | 12/14/10 14:15 |
| Client ID: | MW-502M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 12/15/10 17:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 4.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1019909-05 | Date Collected: | 12/14/10 14:15 |
| Client ID: | MW-502M-20101214-01 | Date Received: | 12/14/10 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/15/10 15:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG448081-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/15/10 15:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG448081-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/15/10 15:00
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,05 Batch: WG448081-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/16/10 06:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG448081-6 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/16/10 06:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG448081-6 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1019909

**Project Number:** 0114119 **Report Date:** 12/16/10

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 12/16/10 06:11
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG448081-6 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| Methylene chloride | 106 | | 107 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 102 | | 104 | | 70-130 | 2 | | 20 |
| Chloroform | 102 | | 105 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 90 | | 101 | | 70-130 | 12 | | 20 |
| 1,2-Dichloropropane | 103 | | 103 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 85 | | 89 | | 70-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 105 | | 100 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | 108 | | 110 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 110 | | 113 | | 70-130 | 3 | | 20 |
| 1,2-Dichloroethane | 104 | | 106 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 102 | | 70-130 | 8 | | 20 |
| Bromodichloromethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 85 | | 88 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 83 | | 87 | | 70-130 | 5 | | 20 |
| 1,1-Dichloropropene | 100 | | 104 | | 70-130 | 4 | | 20 |
| Bromoform | 80 | | 88 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 92 | | 70-130 | 1 | | 20 |
| Benzene | 104 | | 105 | | 70-130 | 1 | | 20 |
| Toluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 105 | | 107 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| Chloromethane | 111 | | 112 | | 70-130 | 1 | | 20 |
| Bromomethane | 85 | | 94 | | 70-130 | 10 | | 20 |
| Vinyl chloride | 108 | | 113 | | 70-130 | 5 | | 20 |
| Chloroethane | 107 | | 107 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 105 | | 70-130 | 5 | | 20 |
| trans-1,2-Dichloroethene | 98 | | 103 | | 70-130 | 5 | | 20 |
| Trichloroethene | 96 | | 98 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 82 | | 77 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 107 | | 110 | | 70-130 | 3 | | 20 |
| o-Xylene | 101 | | 103 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 104 | | 107 | | 70-130 | 3 | | 20 |
| Dibromomethane | 108 | | 104 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 88 | | 91 | | 70-130 | 3 | | 20 |
| Styrene | 101 | | 101 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 114 | | 119 | | 70-130 | 4 | | 20 |
| Acetone | 102 | | 99 | | 70-130 | 3 | | 20 |
| Carbon disulfide | 70 | | 78 | | 70-130 | 11 | | 20 |
| 2-Butanone | 98 | | 96 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 88 | | 83 | | 70-130 | 6 | | 20 |
| 2-Hexanone | 87 | | 87 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 104 | | 105 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 81 | | 79 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 92 | | 98 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 93 | | 98 | | 70-130 | 5 | | 20 |
| Bromobenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 102 | | 106 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 99 | | 104 | | 70-130 | 5 | | 20 |
| tert-Butylbenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| o-Chlorotoluene | 94 | | 98 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 94 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | **65** | Q | 74 | | 70-130 | 13 | | 20 |
| Hexachlorobutadiene | 101 | | 108 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 101 | | 103 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 104 | | 108 | | 70-130 | 4 | | 20 |
| Naphthalene | 79 | | 80 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 97 | | 101 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 91 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,05 Batch: WG448081-1 WG448081-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 93 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 105 | | 70-130 | 5 | | 20 |
| Ethyl ether | 88 | | 85 | | 70-130 | 3 | | 20 |
| Isopropyl Ether | 93 | | 94 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 84 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 106 | | 114 | | 70-130 | 7 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 100 | | 70-130 |
| Toluene-d8 | 100 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 92 | | 70-130 |
| Dibromofluoromethane | 104 | | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| Methylene chloride | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethane | 97 | | 94 | | 70-130 | 3 | | 20 |
| Chloroform | 99 | | 96 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 86 | | 87 | | 70-130 | 1 | | 20 |
| 1,2-Dichloropropane | 104 | | 98 | | 70-130 | 6 | | 20 |
| Dibromochloromethane | 83 | | 88 | | 70-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 103 | | 98 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| 1,2-Dichloroethane | 99 | | 97 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 90 | | 70-130 | 0 | | 20 |
| Bromodichloromethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 86 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 83 | | 86 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 98 | | 91 | | 70-130 | 7 | | 20 |
| Bromoform | 77 | | 88 | | 70-130 | 13 | | 20 |
| 1,1,2,2-Tetrachloroethane | 85 | | 89 | | 70-130 | 5 | | 20 |
| Benzene | 101 | | 95 | | 70-130 | 6 | | 20 |
| Toluene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 100 | | 97 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| Chloromethane | 112 | | 104 | | 70-130 | 7 | | 20 |
| Bromomethane | 95 | | 93 | | 70-130 | 2 | | 20 |
| Vinyl chloride | 104 | | 99 | | 70-130 | 5 | | 20 |
| Chloroethane | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 96 | | 93 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 95 | | 90 | | 70-130 | 5 | | 20 |
| Trichloroethene | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 81 | | 79 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 104 | | 99 | | 70-130 | 5 | | 20 |
| o-Xylene | 98 | | 96 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 95 | | 70-130 | 7 | | 20 |
| Dibromomethane | 103 | | 105 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 87 | | 70-130 | 2 | | 20 |
| Styrene | 97 | | 94 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 108 | | 97 | | 70-130 | 11 | | 20 |
| Acetone | 101 | | 97 | | 70-130 | 4 | | 20 |
| Carbon disulfide | 70 | | 71 | | 70-130 | 1 | | 20 |
| 2-Butanone | 100 | | 94 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119
**Lab Number:** L1019909
**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| 4-Methyl-2-pentanone | 90 | | 90 | | 70-130 | 0 | | 20 |
| 2-Hexanone | 83 | | 87 | | 70-130 | 5 | | 20 |
| Bromochloromethane | 101 | | 101 | | 70-130 | 0 | | 20 |
| Tetrahydrofuran | 78 | | 82 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 89 | | 89 | | 70-130 | 0 | | 20 |
| 1,2-Dibromoethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 104 | | 100 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| tert-Butylbenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 93 | | 70-130 | 1 | | 20 |
| p-Chlorotoluene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | **64** | Q | 77 | | 70-130 | 18 | | 20 |
| Hexachlorobutadiene | 103 | | 100 | | 70-130 | 3 | | 20 |
| Isopropylbenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 104 | | 101 | | 70-130 | 3 | | 20 |
| Naphthalene | 79 | | 79 | | 70-130 | 0 | | 20 |
| n-Propylbenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 89 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0114119

**Lab Number:** L1019909

**Report Date:** 12/16/10

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG448081-4 WG448081-5 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 89 | | 91 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Ethyl ether | 89 | | 84 | | 70-130 | 6 | | 20 |
| Isopropyl Ether | 92 | | 92 | | 70-130 | 0 | | 20 |
| Ethyl-Tert-Butyl-Ether | 84 | | 86 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 124 | | 114 | | 70-130 | 8 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 99 | | 70-130 |
| Toluene-d8 | 98 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 91 | | 97 | | 70-130 |
| Dibromofluoromethane | 105 | | 102 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0114119

**Lab Number:** L1019909
**Report Date:** 12/16/10

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1019909-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1019909-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019909 |
| **Project Number:** | 0114119 | **Report Date:** | 12/16/10 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.) |
| **R** | - Analytical results are from sample re-analysis. |

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019909 |
| **Project Number:** | 0114119 | **Report Date:** | 12/16/10 |

***Data Qualifiers***

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1019909 |
| **Project Number:** | 0114119 | **Report Date:** | 12/16/10 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 19, 2010 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))
*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)
*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)
*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME DRO, ME GRO, MA EPH, MA VPH.)
*Solid Waste/Soil (*Organic Parameters: ME DRO, ME GRO, MA EPH, MA VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water*
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), 314.0, 332.
Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; MF-SM9222D
*Non-Potable Water*
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Ti,Tl, V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables, 600/4-81-045-PCB-Oil

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 120.1, 300.0, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 420.1, 1664A, SW-846 9010, 9030, 9040B, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, SM2120B, 2510B, 5310C, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
*Solid & Chemical Materials* (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)
*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, LACHAT 10-117-07-1A or B, SM4500Cl-E, 4500F-C, SM15 426C, EPA 350.1, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, SM4500-CN-E LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B, 9010B, 9030B.)
*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Non-Potable Water* (Organic Parameters: EPA 3510C, 5030B, 625, 624. 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)
*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 9251, 9038, 350.1, 353.2, 351.1, 120.1, 9050A , 410.4, 9060, 1664, 420.1, LACHAT 10-107-06-1-B, SM 4500CN-E, 4500H-B, 4500CL-E, 4500F-BC, 4500SO4-E, 426C, 4500NH3-B, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500Norg-C, 4500PE, 2510B, 5540C, 5220D, 5310C, 2540B, 2540C, 2540D, 510C, 4500S2-AD, 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8330, 625, 8082, 8151A, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9040B, 9045C, 9065, 420.1, 9012A, 6860, 1311, 1312, 3050B, 9030B, 3051, 9010B, 3540C, SM 510ABC, 4500CN-CE, 2540G, SW-846 7.3, Organic Parameters: EPA 8260B, 8270C, 8330, 8082, 8081A, 8151A, 3545, 3546, 3580, 5035, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:12161013:08

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/14/10

ALPHA Job #: L1019909

Eight Walkup Drive Westborough, MA 01581
TEL: 508-898-9220 FAX: 508-898-9193

**Client Information**

Client: ERM
Address: 399 Boylston St 6th Flr
Boston, MA 02116
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flattery@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0114119
Project Manager: Jason Flattery
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 12/16/10 Time: 1700

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program: MCP
Criteria: GW-1

**MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED**

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are Drinking Water Samples Submitted?
☐ Yes ☐ No Have you met minimum field QC requirements?

Other Project Specific Requirements/Comments/Detection Limits:

**SAMPLE HANDLING**
*Filtration*
☐ Done
☐ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOC 8021 by PID/GC | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|
| 19909 1 | MW-501M-20101214-01 | 12/14/10 | 930 | GW | JM | 2 | | 2 |
| 2 | DUP-001-20101214-01 | 12/14/10 | 1111 | GW | JM | 2 | | 2 |
| 3 | MW-501B-20101214-01 | 12/14/10 | 1210 | GW | JM | 2 | | 2 |
| 4 | MW-502B-20101214-01 | 12/14/10 | 1315 | GW | JM | 2 | | 2 |
| 5 | MW-502M-20101214-01 | 12/14/10 | 1415 | GW | JM | 2 | | 2 |

Container Type: V
Preservative: B

**QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY**

IS YOUR PROJECT MCP? Yes

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 12/14/10 1600 | [signature] | 12/14/10 16[illegible] |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1105355 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/21/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1105355-01 | SEN-1M-20110406-01 | WAYLAND, MA | 04/06/11 10:45 |
| L1105355-02 | SEN-1D-20110406-01 | WAYLAND, MA | 04/06/11 09:45 |
| L1105355-03 | SEN-2M-20110406-01 | WAYLAND, MA | 04/06/11 09:30 |
| L1105355-04 | SEN-2D-20110406-01 | WAYLAND, MA | 04/06/11 10:40 |
| L1105355-05 | SEN-3-20110406-01 | WAYLAND, MA | 04/06/11 11:55 |
| L1105355-06 | DUP-003-20110406-01 | WAYLAND, MA | 04/06/11 12:12 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355
**Project Number:** 0131386.01 **Report Date:** 04/21/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG462540-1/-2 LCS/LCSD recoveries, associated with L1105355-02 and -03, are below the acceptance criteria for Carbon disulfide (66%/68%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355
**Project Number:** 0131386.01 **Report Date:** 04/21/11

**Case Narrative (continued)**

The WG462692-1/-2 LCS/LCSD recoveries, associated with L1105355-04, -05, and -06, are above the individual acceptance criteria for Trichlorofluoromethane (137%/144%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The WG462692-1/-2 LCS/LCSD RPDs, associated with L1105355-04, -05, and -06, are above the acceptance criteria for Carbon tetrachloride (22%) and Bromomethane (25%); however, the individual LCS/LCSD recoveries are within method limits.

The initial calibration, associated with L1105355-01 through -05, did not meet the method required minimum response factors on the lowest calibration standards for 2-Butanone (0.06976), 4-Methyl-2-pentanone (0.05668), and 1,4-Dioxane (0.00134), as well as the average response factor for 2-Butanone, 4-Methyl-2-pentanone, and 1,4-Dioxane. In addition, a quadratic fit was utilized for Acetone and Tetrahydrofuran.

The continuing calibration standards, associated with L1105355-01 through -05, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative Date: 04/21/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-01 | Date Collected: | 04/06/11 10:45 |
| Client ID: | SEN-1M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 17:40 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-01 Date Collected: 04/06/11 10:45

Client ID: SEN-1M-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-01 | Date Collected: | 04/06/11 10:45 |
| Client ID: | SEN-1M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-02 | Date Collected: | 04/06/11 09:45 |
| Client ID: | SEN-1D-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 12:26 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-02 Date Collected: 04/06/11 09:45

Client ID: SEN-1D-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-02 | Date Collected: | 04/06/11 09:45 |
| Client ID: | SEN-1D-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-03 | Date Collected: | 04/06/11 09:30 |
| Client ID: | SEN-2M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 12:58 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-03 Date Collected: 04/06/11 09:30

Client ID: SEN-2M-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-03 | Date Collected: | 04/06/11 09:30 |
| Client ID: | SEN-2M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-04 | Date Collected: | 04/06/11 10:40 |
| Client ID: | SEN-2D-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 17:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-04 Date Collected: 04/06/11 10:40

Client ID: SEN-2D-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-04 Date Collected: 04/06/11 10:40

Client ID: SEN-2D-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-05 | Date Collected: | 04/06/11 11:55 |
| Client ID: | SEN-3-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 17:54 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-05 Date Collected: 04/06/11 11:55

Client ID: SEN-3-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-05 | Date Collected: | 04/06/11 11:55 |
| Client ID: | SEN-3-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 113 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-06 | Date Collected: | 04/06/11 12:12 |
| Client ID: | DUP-003-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 18:26 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

Lab ID: L1105355-06 Date Collected: 04/06/11 12:12

Client ID: DUP-003-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1105355-06 | Date Collected: | 04/06/11 12:12 |
| Client ID: | DUP-003-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG462492-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG462492-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG462492-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG462540-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG462540-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG462540-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

Tentatively Identified Compounds

| | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-06 Batch: WG462692-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-06 Batch: WG462692-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355

**Project Number:** 0131386.01 **Report Date:** 04/21/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04-06 Batch: WG462692-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

Tentatively Identified Compounds

| | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| Methylene chloride | 102 | | 94 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| Chloroform | 102 | | 96 | | 70-130 | 6 | | 20 |
| Carbon tetrachloride | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 92 | | 88 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 88 | | 70-130 | 8 | | 20 |
| Tetrachloroethene | 99 | | 93 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 89 | | 84 | | 70-130 | 6 | | 20 |
| Trichlorofluoromethane | 123 | | 118 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 108 | | 102 | | 70-130 | 6 | | 20 |
| 1,1,1-Trichloroethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| Bromodichloromethane | 102 | | 94 | | 70-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 71 | | 70-130 | 7 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 75 | | 70-130 | 9 | | 20 |
| 1,1-Dichloropropene | 100 | | 94 | | 70-130 | 6 | | 20 |
| Bromoform | 102 | | 93 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Benzene | 98 | | 91 | | 70-130 | 7 | | 20 |
| Toluene | 91 | | 87 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 90 | | 85 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| Chloromethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Bromomethane | 80 | | 74 | | 70-130 | 8 | | 20 |
| Vinyl chloride | 100 | | 97 | | 70-130 | 3 | | 20 |
| Chloroethane | 103 | | 98 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethene | 102 | | 100 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 95 | | 70-130 | 6 | | 20 |
| Trichloroethene | 103 | | 94 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 89 | | 70-130 | 8 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 87 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 87 | | 70-130 | 7 | | 20 |
| Methyl tert butyl ether | 94 | | 88 | | 70-130 | 7 | | 20 |
| p/m-Xylene | 90 | | 85 | | 70-130 | 6 | | 20 |
| o-Xylene | 87 | | 83 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 97 | | 70-130 | 5 | | 20 |
| Dibromomethane | 108 | | 98 | | 70-130 | 10 | | 20 |
| 1,2,3-Trichloropropane | 100 | | 91 | | 70-130 | 9 | | 20 |
| Styrene | 91 | | 86 | | 70-130 | 6 | | 20 |
| Dichlorodifluoromethane | 79 | | 75 | | 70-130 | 5 | | 20 |
| Acetone | 95 | | 88 | | 70-130 | 8 | | 20 |
| Carbon disulfide | 76 | | 74 | | 70-130 | 3 | | 20 |
| 2-Butanone | 84 | | 78 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 84 | | 75 | | 70-130 | 11 | | 20 |
| 2-Hexanone | 76 | | 70 | | 70-130 | 8 | | 20 |
| Bromochloromethane | 110 | | 102 | | 70-130 | 8 | | 20 |
| Tetrahydrofuran | 87 | | 82 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 87 | | 84 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 98 | | 91 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 84 | | 70-130 | 5 | | 20 |
| Bromobenzene | 100 | | 93 | | 70-130 | 7 | | 20 |
| n-Butylbenzene | 80 | | 76 | | 70-130 | 5 | | 20 |
| sec-Butylbenzene | 82 | | 77 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 84 | | 79 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 89 | | 84 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 91 | | 86 | | 70-130 | 6 | | 20 |
| 1,2-Dibromo-3-chloropropane | 90 | | 84 | | 70-130 | 7 | | 20 |
| Hexachlorobutadiene | 91 | | 90 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 85 | | 80 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 86 | | 82 | | 70-130 | 5 | | 20 |
| Naphthalene | 78 | | 71 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 86 | | 82 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 77 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 87 | | 81 | | 70-130 | 7 | | 20 |
| 1,3,5-Trimethylbenzene | 84 | | 79 | | 70-130 | 6 | | 20 |
| 1,2,4-Trimethylbenzene | 87 | | 82 | | 70-130 | 6 | | 20 |
| Ethyl ether | 110 | | 100 | | 70-130 | 10 | | 20 |
| Isopropyl Ether | 93 | | 88 | | 70-130 | 6 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 81 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 86 | | 80 | | 70-130 | 7 | | 20 |
| 1,4-Dioxane | 102 | | 91 | | 70-130 | 11 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 104 | | 70-130 |
| Toluene-d8 | 97 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| Methylene chloride | 102 | | 101 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| Chloroform | 100 | | 101 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 86 | | 95 | | 70-130 | 10 | | 20 |
| 1,2-Dichloropropane | 91 | | 91 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 87 | | 87 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 120 | | 121 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 106 | | 104 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 95 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 95 | | 99 | | 70-130 | 4 | | 20 |
| trans-1,3-Dichloropropene | 71 | | 73 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 77 | | 79 | | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 97 | | 97 | | 70-130 | 0 | | 20 |
| Bromoform | 88 | | 96 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 95 | | 95 | | 70-130 | 0 | | 20 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Toluene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 88 | | 89 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| Chloromethane | 87 | | 86 | | 70-130 | 1 | | 20 |
| Bromomethane | 94 | | 86 | | 70-130 | 9 | | 20 |
| Vinyl chloride | 99 | | 96 | | 70-130 | 3 | | 20 |
| Chloroethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Trichloroethene | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 90 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 92 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 97 | | 94 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 88 | | 89 | | 70-130 | 1 | | 20 |
| o-Xylene | 85 | | 86 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 102 | | 70-130 | 0 | | 20 |
| Dibromomethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 93 | | 97 | | 70-130 | 4 | | 20 |
| Styrene | 89 | | 89 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 76 | | 74 | | 70-130 | 3 | | 20 |
| Acetone | 92 | | 88 | | 70-130 | 4 | | 20 |
| Carbon disulfide | **66** | Q | **68** | Q | 70-130 | 3 | | 20 |
| 2-Butanone | 83 | | 82 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 76 | | 78 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 74 | | 70 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 107 | | 106 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 88 | | 91 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 82 | | 86 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 97 | | 93 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 80 | | 85 | | 70-130 | 6 | | 20 |
| Bromobenzene | 94 | | 98 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 77 | | 80 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 80 | | 81 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 82 | | 82 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 85 | | 88 | | 70-130 | 3 | | 20 |
| p-Chlorotoluene | 87 | | 89 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 80 | | 82 | | 70-130 | 2 | | 20 |
| Hexachlorobutadiene | 88 | | 89 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 84 | | 84 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 83 | | 85 | | 70-130 | 2 | | 20 |
| Naphthalene | 73 | | 77 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 84 | | 85 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 81 | | 84 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 82 | | 84 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 81 | | 83 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl ether | 110 | | 108 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 92 | | 91 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 87 | | 84 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 104 | | 101 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 102 | | 70-130 |
| Toluene-d8 | 97 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 |
| Dibromofluoromethane | 104 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| Methylene chloride | 106 | | 110 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethane | 97 | | 104 | | 70-130 | 7 | | 20 |
| Chloroform | 102 | | 111 | | 70-130 | 8 | | 20 |
| Carbon tetrachloride | 81 | | 101 | | 70-130 | **22** | Q | 20 |
| 1,2-Dichloropropane | 93 | | 100 | | 70-130 | 7 | | 20 |
| Dibromochloromethane | 95 | | 99 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 110 | | 98 | | 70-130 | 12 | | 20 |
| Tetrachloroethene | 106 | | 102 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | **137** | Q | **144** | Q | 70-130 | 5 | | 20 |
| 1,2-Dichloroethane | 112 | | 117 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 92 | | 104 | | 70-130 | 12 | | 20 |
| Bromodichloromethane | 93 | | 106 | | 70-130 | 13 | | 20 |
| trans-1,3-Dichloropropene | 73 | | 74 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 76 | | 82 | | 70-130 | 8 | | 20 |
| 1,1-Dichloropropene | 104 | | 110 | | 70-130 | 6 | | 20 |
| Bromoform | 89 | | 96 | | 70-130 | 8 | | 20 |
| 1,1,2,2-Tetrachloroethane | 104 | | 99 | | 70-130 | 5 | | 20 |
| Benzene | 101 | | 105 | | 70-130 | 4 | | 20 |
| Toluene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 94 | | 91 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| Chloromethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| Bromomethane | 70 | | 90 | | 70-130 | **25** | Q | 20 |
| Vinyl chloride | 110 | | 116 | | 70-130 | 5 | | 20 |
| Chloroethane | 110 | | 115 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 108 | | 115 | | 70-130 | 6 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 108 | | 70-130 | 7 | | 20 |
| Trichloroethene | 104 | | 110 | | 70-130 | 6 | | 20 |
| 1,2-Dichlorobenzene | 101 | | 100 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 97 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 95 | | 94 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 95 | | 92 | | 70-130 | 3 | | 20 |
| o-Xylene | 89 | | 87 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 104 | | 113 | | 70-130 | 8 | | 20 |
| Dibromomethane | 110 | | 115 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 110 | | 102 | | 70-130 | 8 | | 20 |
| Styrene | 94 | | 92 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 97 | | 102 | | 70-130 | 5 | | 20 |
| Acetone | 102 | | 100 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 84 | | 92 | | 70-130 | 9 | | 20 |
| 2-Butanone | 92 | | 91 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 85 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 89 | | 82 | | 70-130 | 8 | | 20 |
| Bromochloromethane | 113 | | 120 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | 98 | | 95 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 77 | | 90 | | 70-130 | 16 | | 20 |
| 1,2-Dibromoethane | 107 | | 101 | | 70-130 | 6 | | 20 |
| 1,3-Dichloropropane | 109 | | 102 | | 70-130 | 7 | | 20 |
| 1,1,1,2-Tetrachloroethane | 82 | | 88 | | 70-130 | 7 | | 20 |
| Bromobenzene | 104 | | 105 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 80 | | 81 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 80 | | 80 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 82 | | 84 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 92 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 82 | | 86 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | 90 | | 97 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Naphthalene | 81 | | 79 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 87 | | 86 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1105355
**Report Date:** 04/21/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04-06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 86 | | 86 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Ethyl ether | 109 | | 109 | | 70-130 | 0 | | 20 |
| Isopropyl Ether | 90 | | 93 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 86 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 85 | | 85 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 117 | | 115 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 102 | | 70-130 |
| Toluene-d8 | 97 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 96 | | 70-130 |
| Dibromofluoromethane | 97 | | 105 | | 70-130 |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1105355 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/21/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1105355 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/21/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1105355
**Project Number:** 0131386.01 **Report Date:** 04/21/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

L1105355 (KB) 4/20/11

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL LABS

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

B

Date Rec'd in Lab: 4/6/11

ALPHA Job #: ~~L1104558~~

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flattery@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 4/13/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP | Criteria GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOCs (8260B)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | (KB) Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (8260B) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 5355.1 ~~1558.10~~ | SEN-1M-20110406-01 | 4/6/11 | 1045 | GW | SMC | 2 | | 2 |
| .2 ~~11~~ | SEN-1D-20110406-01 | | 945 | | SMC | 2 | | 2 |
| .3 ~~12~~ | SEN-2M-20110406-01 | | 930 | | LJM | 2 | | 2 |
| .4 ~~13~~ | SEN-2D-20110406-01 | | 1040 | | LJM | 2 | | 2 |
| .5 ~~14~~ | SEN-3-20110406-01 | | 1155 | | LJM | 2 | | 2 |
| .6 ~~15~~ | DUP-003-20110406-01 | | 1212 | | LJM | 2 | | 2 |
| | ~~DUP-00~~ (LSM) | | | | | | | |

Container Type: V

Preservative: (KB)

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Emily Trip | 4/6/11 1530 | Mann Hale | 4/6/11 1532 |
| Mann Hale | 4/6/11 1615 | [illegible] | 4/6/11 1615 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:04211111:25

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1105355

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 06:09

Lab File ID: 0412A01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .2657 | .1 | 24 | 20 | F |
| chloromethane | .35628 | .31039 | .1 | 13 | 20 | |
| vinyl chloride | .30181 | .2991 | .1 | 1 | 20 | |
| bromomethane | .22898 | .21492 | .1 | 6 | 20 | |
| chloroethane | .20794 | .21238 | .1 | -2 | 20 | |
| trichlorofluoromethane | .42568 | .51162 | .1 | -20 | 20 | F |
| ethyl ether | .12007 | .13177 | .05 | -10 | 20 | |
| acetone | 100 | 92.453 | .1 | 8 | 20 | |
| 1,1,-dichloroethene | .30271 | .30334 | .1 | 0 | 20 | |
| methylene chloride | .30372 | .31128 | .1 | -2 | 20 | |
| carbon disulfide | .91586 | .60772 | .1 | 34 | 20 | F |
| methyl tert butyl ether | .51963 | .50426 | .1 | 3 | 20 | |
| trans-1,2-dichloroethene | .34461 | .33317 | .1 | 3 | 20 | |
| Diisopropyl Ether | .81846 | .75445 | .05 | 8 | 20 | |
| 1,1-dichloroethane | .58497 | .55208 | .2 | 6 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .61103 | .05 | 13 | 20 | |
| 2-butanone | .05505 | .04565 | .1 | 17 | 20 | F |
| 2,2-dichloropropane | .38987 | .31865 | .05 | 18 | 20 | |
| cis-1,2-dichloroethene | .36598 | .37211 | .1 | -2 | 20 | |
| chloroform | .55517 | .55621 | .2 | 0 | 20 | |
| bromochloromethane | .13826 | .14808 | .05 | -7 | 20 | |
| tetrahydrofuran | 100 | 87.931 | .05 | 12 | 20 | |
| 1,1,1-trichloroethane | .50175 | .45002 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .47777 | .46309 | .05 | 3 | 20 | |
| carbontetrachloride | .40299 | .34572 | .1 | 14 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .5022 | .05 | 15 | 20 | |
| 1,2-dichloroethane | .29658 | .31413 | .1 | -6 | 20 | |
| benzene | 1.4222 | 1.3596 | .5 | 4 | 20 | |
| trichloroethene | .35492 | .35087 | .2 | 1 | 20 | |
| 1,2-dichloropropane | .31236 | .28452 | .1 | 9 | 20 | |
| bromodichloromethane | .34843 | .33109 | .2 | 5 | 20 | |
| 1,4-dioxane | .00121 | .00126 | .05 | -4 | 20 | F |
| dibromomethane | .12614 | .13325 | .05 | -6 | 20 | |
| 4-methyl-2-pentanone | .05144 | .03907 | .1 | 24 | 20 | F |
| cis-1,3-dichloropropene | .449 | .3472 | .2 | 23 | 20 | F |
| toluene | 1.1887 | 1.0735 | .4 | 10 | 20 | |
| trans-1,3-dichloropropene | .40626 | .28836 | .1 | 29 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .17405 | .1 | 7 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1105355

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 06:09

Lab File ID: 0412A01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .10447 | .07694 | .1 | 26 | 20 | F |
| 1,3-dichloropropane | .41055 | .39677 | .05 | 3 | 20 | |
| tetrachloroethene | .54918 | .52585 | .2 | 4 | 20 | |
| chlorodibromomethane | .26275 | .23967 | .1 | 9 | 20 | |
| 1,2-dibromoethane | .21528 | .20211 | .1 | 6 | 20 | |
| chlorobenzene | 1.3469 | 1.1658 | .5 | 13 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .31358 | .05 | 20 | 20 | |
| ethyl benzene | 2.4104 | 2.1315 | .1 | 12 | 20 | |
| p/m xylene | .97612 | .86373 | .1 | 12 | 20 | |
| o xylene | .96041 | .81937 | .3 | 15 | 20 | |
| styrene | 1.5385 | 1.3628 | .31 | 11 | 20 | |
| isopropylbenzene | 2.4862 | 2.0872 | .1 | 16 | 20 | |
| bromoform | .23103 | .20209 | .1 | 13 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .36852 | .3 | 5 | 20 | |
| 1,2,3-trichloropropane | .302 | .28098 | .05 | 7 | 20 | |
| n-propylbenzene | 4.2789 | 3.5713 | .05 | 17 | 20 | |
| bromobenzene | .85391 | .80314 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.5313 | .05 | 19 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.4048 | .05 | 15 | 20 | |
| 4-chorotoluene | 2.6385 | 2.2934 | .05 | 13 | 20 | |
| tert-butylbenzene | 2.7401 | 2.2414 | .05 | 18 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.6622 | .05 | 15 | 20 | |
| sec-butylbenzene | 3.7202 | 2.9705 | .05 | 20 | 20 | F |
| p-isopropyltoluene | 3.1690 | 2.6223 | .05 | 17 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.5533 | .6 | 12 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.5839 | .5 | 11 | 20 | |
| n-butylbenzene | 3.0962 | 2.3922 | .05 | 23 | 20 | F |
| 1,2-dichlorobenzene | 1.4995 | 1.3606 | .4 | 9 | 20 | |
| 1,2-dibromo-3-chloropropane | .05659 | .04511 | .05 | 20 | 20 | F |
| 1,2,4-trichlorobenzene | .83258 | .68049 | .2 | 18 | 20 | |
| hexachlorobutadiene | .4051 | .35552 | .05 | 12 | 20 | |
| naphthalene | 1.3212 | .96782 | .05 | 27 | 20 | F |
| 1,2,3-trichlorobenzene | .61394 | .49726 | .05 | 19 | 20 | |
| dibromofluoromethane | .23183 | .24141 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .19112 | .20365 | .05 | -7 | 20 | |
| toluene-d8 | 1.2966 | 1.2621 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .84277 | .82064 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1105355

Instrument ID: Quimby.i  Calibration Date: 11-APR-2011  Time: 08:12

Lab File ID: 0411A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .275 | .1 | 21 | 20 | F |
| chloromethane | .35628 | .31076 | .1 | 13 | 20 | |
| vinyl chloride | .30181 | .30279 | .1 | 0 | 20 | |
| bromomethane | .22898 | .18212 | .1 | 20 | 20 | F |
| chloroethane | .20794 | .21419 | .1 | -3 | 20 | |
| trichlorofluoromethane | .42568 | .52415 | .1 | -23 | 20 | F |
| ethyl ether | .12007 | .13189 | .05 | -10 | 20 | |
| acetone | 100 | 95.270 | .1 | 5 | 20 | |
| 1,1,-dichloroethene | .30271 | .30862 | .1 | -2 | 20 | |
| methylene chloride | .30372 | .31009 | .1 | -2 | 20 | |
| carbon disulfide | .91586 | .69332 | .1 | 24 | 20 | F |
| methyl tert butyl ether | .51963 | .48582 | .1 | 7 | 20 | |
| trans-1,2-dichloroethene | .34461 | .34703 | .1 | -1 | 20 | |
| Diisopropyl Ether | .81846 | .76106 | .05 | 7 | 20 | |
| 1,1-dichloroethane | .58497 | .57703 | .2 | 1 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .59541 | .05 | 15 | 20 | |
| 2-butanone | .05505 | .04609 | .1 | 16 | 20 | F |
| 2,2-dichloropropane | .38987 | .33987 | .05 | 13 | 20 | |
| cis-1,2-dichloroethene | .36598 | .37389 | .1 | -2 | 20 | |
| chloroform | .55517 | .56641 | .2 | -2 | 20 | |
| bromochloromethane | .13826 | .15165 | .05 | -10 | 20 | |
| tetrahydrofuran | 100 | 87.174 | .05 | 13 | 20 | |
| 1,1,1-trichloroethane | .50175 | .49407 | .1 | 2 | 20 | |
| 1,1-dichloropropene | .47777 | .47861 | .05 | 0 | 20 | |
| carbontetrachloride | .40299 | .39681 | .1 | 2 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .50762 | .05 | 14 | 20 | |
| 1,2-dichloroethane | .29658 | .32152 | .1 | -8 | 20 | |
| benzene | 1.4222 | 1.3961 | .5 | 2 | 20 | |
| trichloroethene | .35492 | .36727 | .2 | -3 | 20 | |
| 1,2-dichloropropane | .31236 | .28766 | .1 | 8 | 20 | |
| bromodichloromethane | .34843 | .35418 | .2 | -2 | 20 | |
| 1,4-dioxane | .00121 | .00123 | .05 | -2 | 20 | F |
| dibromomethane | .12614 | .13686 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .05144 | .04317 | .1 | 16 | 20 | F |
| cis-1,3-dichloropropene | .449 | .36846 | .2 | 18 | 20 | |
| toluene | 1.1887 | 1.0795 | .4 | 9 | 20 | |
| trans-1,3-dichloropropene | .40626 | .30726 | .1 | 24 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .17787 | .1 | 5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1105355

Instrument ID: Quimby.i  Calibration Date: 11-APR-2011  Time: 08:12

Lab File ID: 0411A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .10447 | .07926 | .1 | 24 | 20 | F |
| 1,3-dichloropropane | .41055 | .40054 | .05 | 2 | 20 | |
| tetrachloroethene | .54918 | .54298 | .2 | 1 | 20 | |
| chlorodibromomethane | .26275 | .25783 | .1 | 2 | 20 | |
| 1,2-dibromoethane | .21528 | .20993 | .1 | 2 | 20 | |
| chlorobenzene | 1.3469 | 1.1966 | .5 | 11 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .34246 | .05 | 13 | 20 | |
| ethyl benzene | 2.4104 | 2.1726 | .1 | 10 | 20 | |
| p/m xylene | .97612 | .88113 | .1 | 10 | 20 | |
| o xylene | .96041 | .83784 | .3 | 13 | 20 | |
| styrene | 1.5385 | 1.3991 | .31 | 9 | 20 | |
| isopropylbenzene | 2.4862 | 2.1069 | .1 | 15 | 20 | |
| bromoform | .23103 | .23456 | .1 | -2 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .38107 | .3 | 2 | 20 | |
| 1,2,3-trichloropropane | .302 | .3032 | .05 | 0 | 20 | |
| n-propylbenzene | 4.2789 | 3.6975 | .05 | 14 | 20 | |
| bromobenzene | .85391 | .85734 | .05 | 0 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.6157 | .05 | 16 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.5152 | .05 | 11 | 20 | |
| 4-chorotoluene | 2.6385 | 2.4075 | .05 | 9 | 20 | |
| tert-butylbenzene | 2.7401 | 2.2895 | .05 | 16 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.7306 | .05 | 13 | 20 | |
| sec-butylbenzene | 3.7202 | 3.0308 | .05 | 19 | 20 | |
| p-isopropyltoluene | 3.1690 | 2.7367 | .05 | 14 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.6242 | .6 | 8 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.6567 | .5 | 7 | 20 | |
| n-butylbenzene | 3.0962 | 2.4877 | .05 | 20 | 20 | |
| 1,2-dichlorobenzene | 1.4995 | 1.4422 | .4 | 4 | 20 | |
| 1,2-dibromo-3-chloropropane | .05659 | .05106 | .05 | 10 | 20 | |
| 1,2,4-trichlorobenzene | .83258 | .72462 | .2 | 13 | 20 | |
| hexachlorobutadiene | .4051 | .36687 | .05 | 9 | 20 | |
| naphthalene | 1.3212 | 1.0314 | .05 | 22 | 20 | F |
| 1,2,3-trichlorobenzene | .61394 | .52103 | .05 | 15 | 20 | |
| dibromofluoromethane | .23183 | .24387 | .05 | -5 | 20 | |
| 1,2-dichloroethane-d4 | .19112 | .20002 | .05 | -5 | 20 | |
| toluene-d8 | 1.2966 | 1.2558 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .84277 | .81843 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1105355

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 13:42

Lab File ID: 0412N01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: wg462692-1,31,1  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .33822 | .1 | 3 | 20 | |
| chloromethane | .35628 | .32564 | .1 | 9 | 20 | |
| vinyl chloride | .30181 | .33287 | .1 | -10 | 20 | |
| bromomethane | .22898 | .15965 | .1 | 30 | 20 | F |
| chloroethane | .20794 | .2278 | .1 | -10 | 20 | |
| trichlorofluoromethane | .42568 | .58161 | .1 | -37 | 20 | F |
| ethyl ether | .12007 | .13142 | .05 | -9 | 20 | |
| acetone | 100 | 102 | .1 | -2 | 20 | |
| 1,1,-dichloroethene | .30271 | .32654 | .1 | -8 | 20 | |
| methylene chloride | .30372 | .32153 | .1 | -6 | 20 | |
| carbon disulfide | .91586 | .76918 | .1 | 16 | 20 | |
| methyl tert butyl ether | .51963 | .49326 | .1 | 5 | 20 | |
| trans-1,2-dichloroethene | .34461 | .34736 | .1 | -1 | 20 | |
| Diisopropyl Ether | .81846 | .73461 | .05 | 10 | 20 | |
| 1,1-dichloroethane | .58497 | .56952 | .2 | 3 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .59701 | .05 | 15 | 20 | |
| 2-butanone | .05505 | .05036 | .1 | 9 | 20 | F |
| 2,2-dichloropropane | .38987 | .3016 | .05 | 23 | 20 | F |
| cis-1,2-dichloroethene | .36598 | .38266 | .1 | -5 | 20 | |
| chloroform | .55517 | .56674 | .2 | -2 | 20 | |
| bromochloromethane | .13826 | .15592 | .05 | -13 | 20 | |
| tetrahydrofuran | 100 | 97.674 | .05 | 2 | 20 | |
| 1,1,1-trichloroethane | .50175 | .46 | .1 | 8 | 20 | |
| 1,1-dichloropropene | .47777 | .49469 | .05 | -4 | 20 | |
| carbontetrachloride | .40299 | .32801 | .1 | 19 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .50474 | .05 | 15 | 20 | |
| 1,2-dichloroethane | .29658 | .33078 | .1 | -12 | 20 | |
| benzene | 1.4222 | 1.4310 | .5 | -1 | 20 | |
| trichloroethene | .35492 | .37121 | .2 | -5 | 20 | |
| 1,2-dichloropropane | .31236 | .29046 | .1 | 7 | 20 | |
| bromodichloromethane | .34843 | .32356 | .2 | 7 | 20 | |
| 1,4-dioxane | .00121 | .00142 | .05 | -17 | 20 | F |
| dibromomethane | .12614 | .13941 | .05 | -11 | 20 | |
| 4-methyl-2-pentanone | .05144 | .04579 | .1 | 11 | 20 | F |
| cis-1,3-dichloropropene | .449 | .34121 | .2 | 24 | 20 | F |
| toluene | 1.1887 | 1.1650 | .4 | 2 | 20 | |
| trans-1,3-dichloropropene | .40626 | .29523 | .1 | 27 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .20778 | .1 | -10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1105355

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 13:42

Lab File ID: 0412N01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: wg462692-1,31,1  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .10447 | .09278 | .1 | 11 | 20 | |
| 1,3-dichloropropane | .41055 | .44796 | .05 | -9 | 20 | |
| tetrachloroethene | .54918 | .58249 | .2 | -6 | 20 | |
| chlorodibromomethane | .26275 | .25025 | .1 | 5 | 20 | |
| 1,2-dibromoethane | .21528 | .22974 | .1 | -7 | 20 | |
| chlorobenzene | 1.3469 | 1.2944 | .5 | 4 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .32178 | .05 | 18 | 20 | |
| ethyl benzene | 2.4104 | 2.2779 | .1 | 5 | 20 | |
| p/m xylene | .97612 | .9244 | .1 | 5 | 20 | |
| o xylene | .96041 | .85714 | .3 | 11 | 20 | |
| styrene | 1.5385 | 1.4547 | .31 | 5 | 20 | |
| isopropylbenzene | 2.4862 | 2.1383 | .1 | 14 | 20 | |
| bromoform | .23103 | .20628 | .1 | 11 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .40397 | .3 | -4 | 20 | |
| 1,2,3-trichloropropane | .302 | .33072 | .05 | -10 | 20 | |
| n-propylbenzene | 4.2789 | 3.6280 | .05 | 15 | 20 | |
| bromobenzene | .85391 | .89134 | .05 | -4 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.6633 | .05 | 15 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.5834 | .05 | 8 | 20 | |
| 4-chorotoluene | 2.6385 | 2.4816 | .05 | 6 | 20 | |
| tert-butylbenzene | 2.7401 | 2.2336 | .05 | 18 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.8147 | .05 | 11 | 20 | |
| sec-butylbenzene | 3.7202 | 2.9592 | .05 | 20 | 20 | F |
| p-isopropyltoluene | 3.1690 | 2.6819 | .05 | 15 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.6817 | .6 | 4 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.7344 | .5 | 2 | 20 | |
| n-butylbenzene | 3.0962 | 2.4631 | .05 | 20 | 20 | F |
| 1,2-dichlorobenzene | 1.4995 | 1.5179 | .4 | -1 | 20 | |
| 1,2-dibromo-3-chloropropane | .05659 | .04667 | .05 | 18 | 20 | |
| 1,2,4-trichlorobenzene | .83258 | .73689 | .2 | 11 | 20 | |
| hexachlorobutadiene | .4051 | .36542 | .05 | 10 | 20 | |
| naphthalene | 1.3212 | 1.0733 | .05 | 19 | 20 | |
| 1,2,3-trichlorobenzene | .61394 | .53295 | .05 | 13 | 20 | |
| dibromofluoromethane | .23183 | .22479 | .05 | 3 | 20 | |
| 1,2-dichloroethane-d4 | .19112 | .19502 | .05 | -2 | 20 | |
| toluene-d8 | 1.2966 | 1.2551 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .84277 | .80352 | .05 | 5 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104713 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/15/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104713
**Report Date:** 04/15/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104713-01 | DEP-21-20110407-01 | WAYLAND, MA | 04/07/11 09:45 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Volatile Organics

In reference to question H:

The WG463009-1/-2 LCS/LCSD recoveries, associated with L1104713-01, are below the acceptance criteria for Chloromethane (54%/56%) and Dichlorodifluoromethane (52%/46%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for these compounds.

The continuing calibration standard, associated with L1104713-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 04/15/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104713-01 | Date Collected: | 04/07/11 09:45 |
| Client ID: | DEP-21-20110407-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/14/11 19:42 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 14 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

Lab ID: L1104713-01 Date Collected: 04/07/11 09:45

Client ID: DEP-21-20110407-01 Date Received: 04/08/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104713
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Methylene chloride | 101 | | 90 | | 70-130 | 12 | | 20 |
| 1,1-Dichloroethane | 100 | | 88 | | 70-130 | 13 | | 20 |
| Chloroform | 105 | | 94 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 103 | | 95 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 103 | | 92 | | 70-130 | 11 | | 20 |
| Dibromochloromethane | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 112 | | 100 | | 70-130 | 11 | | 20 |
| Chlorobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| Trichlorofluoromethane | 125 | | 110 | | 70-130 | 13 | | 20 |
| 1,2-Dichloroethane | 108 | | 98 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 85 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 103 | | 91 | | 70-130 | 12 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 76 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 89 | | 79 | | 70-130 | 12 | | 20 |
| 1,1-Dichloropropene | 98 | | 85 | | 70-130 | 14 | | 20 |
| Bromoform | 103 | | 97 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Benzene | 102 | | 91 | | 70-130 | 11 | | 20 |
| Toluene | 97 | | 88 | | 70-130 | 10 | | 20 |
| Ethylbenzene | 106 | | 96 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104713
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Chloromethane | **54** | Q | **56** | Q | 70-130 | 4 | | 20 |
| Bromomethane | **60** | Q | **63** | Q | 70-130 | 5 | | 20 |
| Vinyl chloride | 116 | | 106 | | 70-130 | 9 | | 20 |
| Chloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 91 | | 83 | | 70-130 | 9 | | 20 |
| trans-1,2-Dichloroethene | 96 | | 85 | | 70-130 | 12 | | 20 |
| Trichloroethene | 103 | | 91 | | 70-130 | 12 | | 20 |
| 1,2-Dichlorobenzene | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,3-Dichlorobenzene | 104 | | 94 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 84 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 110 | | 100 | | 70-130 | 10 | | 20 |
| o-Xylene | 110 | | 103 | | 70-130 | 7 | | 20 |
| cis-1,2-Dichloroethene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Dibromomethane | 108 | | 99 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 79 | | 70-130 | 7 | | 20 |
| Styrene | 114 | | 105 | | 70-130 | 8 | | 20 |
| Dichlorodifluoromethane | **52** | Q | **46** | Q | 70-130 | 12 | | 20 |
| Acetone | 97 | | 96 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 83 | | 76 | | 70-130 | 9 | | 20 |
| 2-Butanone | 94 | | 92 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104713
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 87 | | 86 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 88 | | 89 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 116 | | 102 | | 70-130 | 13 | | 20 |
| Tetrahydrofuran | 101 | | 101 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 93 | | 86 | | 70-130 | 8 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 108 | | 96 | | 70-130 | 12 | | 20 |
| Bromobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| n-Butylbenzene | 105 | | 92 | | 70-130 | 13 | | 20 |
| sec-Butylbenzene | 97 | | 85 | | 70-130 | 13 | | 20 |
| tert-Butylbenzene | 98 | | 87 | | 70-130 | 12 | | 20 |
| o-Chlorotoluene | 96 | | 84 | | 70-130 | 13 | | 20 |
| p-Chlorotoluene | 95 | | 86 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 119 | | 114 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 119 | | 100 | | 70-130 | 17 | | 20 |
| Isopropylbenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| p-Isopropyltoluene | 107 | | 94 | | 70-130 | 13 | | 20 |
| Naphthalene | 116 | | 110 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 96 | | 85 | | 70-130 | 12 | | 20 |
| 1,2,3-Trichlorobenzene | **137** | Q | 126 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104713

**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 130 | | 116 | | 70-130 | 11 | | 20 |
| 1,3,5-Trimethylbenzene | 103 | | 90 | | 70-130 | 13 | | 20 |
| 1,2,4-Trimethylbenzene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Ethyl ether | 92 | | 90 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 89 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 93 | | 87 | | 70-130 | 7 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 89 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 105 | | 108 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 107 | | 70-130 |
| Toluene-d8 | 100 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 84 | | 70-130 |
| Dibromofluoromethane | 107 | | 105 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104713
**Report Date:** 04/15/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104713-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104713-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1104713 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1104713 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104713
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:04151112:48

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

B

Date Rec'd in Lab: 4/8/11

ALPHA Job #: L1104713

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatteny

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/15/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: CVOCs (8021C x 8260B) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 4713-01 | DEP-21-20110407-01 | 4/7/11 | 0945 | GW | LJM | 2 | | 2 |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|
| Container Type | | | | |
| Preservative | | | | |
| | [signature] | 4/8/11 900 | [signature] | 4/8/11 0900 |
| | [signature] | 4/8/11 0900 | [signature] | 4/8/11 900 |
| | [signature] | 4/8/11 0950 | [signature] | 4/8/11 0950 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104713

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .28289 | .14629 | .05 | 48 | 20 | F |
| chloromethane | .24925 | .13346 | .05 | 46 | 20 | F |
| vinyl chloride | .13187 | .15271 | .05 | -16 | 20 | |
| bromomethane | 100 | 60.237 | .05 | 40 | 20 | F |
| chloroethane | .12647 | .13954 | .05 | -10 | 20 | |
| trichlorofluoromethane | .31877 | .39807 | .05 | -25 | 20 | F |
| ethyl ether | .14644 | .13548 | .05 | 7 | 20 | |
| acetone | 100 | 97.064 | .05 | 3 | 20 | |
| 1,1,-dichloroethene | .22801 | .20833 | .05 | 9 | 20 | |
| methylene chloride | .26678 | .26881 | .05 | -1 | 20 | |
| carbon disulfide | .73893 | .61242 | .05 | 17 | 20 | |
| methyl tert butyl ether | .67115 | .56241 | .05 | 16 | 20 | |
| trans-1,2-dichloroethene | .25462 | .24363 | .05 | 4 | 20 | |
| Diisopropyl Ether | 1.0026 | .88843 | .05 | 11 | 20 | |
| 1,1-dichloroethane | .47793 | .47948 | .05 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76715 | .71204 | .05 | 7 | 20 | |
| 2-butanone | .11017 | .10386 | .05 | 6 | 20 | |
| 2,2-dichloropropane | 100 | 98.956 | .05 | 1 | 20 | |
| cis-1,2-dichloroethene | .27823 | .29395 | .05 | -6 | 20 | |
| chloroform | .45304 | .477 | .05 | -5 | 20 | |
| bromochloromethane | .10531 | .12213 | .05 | -16 | 20 | |
| tetrahydrofuran | .06674 | .06771 | .05 | -1 | 20 | |
| 1,1,1-trichloroethane | 100 | 92.975 | .05 | 7 | 20 | |
| 1,1-dichloropropene | .36773 | .36052 | .05 | 2 | 20 | |
| carbontetrachloride | 100 | 103 | .05 | -3 | 20 | |
| Tertiary-Amyl Methyl Ether | .61944 | .56257 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .34478 | .37413 | .05 | -9 | 20 | |
| benzene | 1.0844 | 1.1075 | .05 | -2 | 20 | |
| trichloroethene | .26234 | .271 | .05 | -3 | 20 | |
| 1,2-dichloropropane | .26484 | .27199 | .05 | -3 | 20 | |
| bromodichloromethane | 100 | 103 | .05 | -3 | 20 | |
| 1,4-Dioxane | .00221 | .00233 | .05 | -5 | 20 | F |
| dibromomethane | .13285 | .14416 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .08117 | .07045 | .05 | 13 | 20 | |
| cis-1,3-dichloropropene | 100 | 88.791 | .05 | 11 | 20 | |
| toluene | 1.0085 | .97885 | .05 | 3 | 20 | |
| trans-1,3-dichloropropene | 100 | 84.120 | .05 | 16 | 20 | |
| 2-hexanone | .21591 | .18958 | .05 | 12 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104713

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24604 | .24238 | .05 | 1 | 20 | |
| 1,3-dichloropropane | .54589 | .53686 | .05 | 2 | 20 | |
| tetrachloroethene | .36438 | .40985 | .05 | -12 | 20 | |
| chlorodibromomethane | 100 | 104 | .05 | -4 | 20 | |
| 1,2-dibromoethane | 100 | 92.776 | .05 | 7 | 20 | |
| chlorobenzene | 1.0113 | 1.0392 | .05 | -3 | 20 | |
| 1,1,1,2-tetrachloroethane | 100 | 108 | .05 | -8 | 20 | |
| ethyl benzene | 1.8005 | 1.9153 | .05 | -6 | 20 | |
| p/m xylene | .66602 | .73518 | .05 | -10 | 20 | |
| o xylene | .6479 | .71449 | .05 | -10 | 20 | |
| styrene | 1.0832 | 1.2353 | .05 | -14 | 20 | |
| isopropylbenzene | 1.6819 | 1.8078 | .05 | -7 | 20 | |
| bromoform | 100 | 103 | .05 | -3 | 20 | |
| 1,1,2,2,-tetrachloroethane | .62605 | .54605 | .05 | 13 | 20 | |
| 1,2,3-trichloropropane | .5428 | .46193 | .05 | 15 | 20 | |
| n-propylbenzene | 3.8835 | 3.7378 | .05 | 4 | 20 | |
| bromobenzene | .79713 | .82008 | .05 | -3 | 20 | |
| 1,3,5-trimethybenzene | 2.6154 | 2.6840 | .05 | -3 | 20 | |
| 2-chlorotoluene | 2.7058 | 2.6101 | .05 | 4 | 20 | |
| 4-chorotoluene | 2.5561 | 2.4214 | .05 | 5 | 20 | |
| tert-butylbenzene | 2.2436 | 2.1883 | .05 | 2 | 20 | |
| 1,2,4-trimethylbenzene | 2.5074 | 2.6688 | .05 | -6 | 20 | |
| sec-butylbenzene | 3.3259 | 3.2395 | .05 | 3 | 20 | |
| p-isopropyltoluene | 2.5250 | 2.7073 | .05 | -7 | 20 | |
| 1,3-dichlorobenzene | 1.4280 | 1.4830 | .05 | -4 | 20 | |
| 1,4-dichlorobenzene | 1.4445 | 1.5443 | .05 | -7 | 20 | |
| n-butylbenzene | 2.7218 | 2.8539 | .05 | -5 | 20 | |
| 1,2-dichlorobenzene | 1.3394 | 1.4005 | .05 | -5 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 119 | .05 | -19 | 20 | |
| 1,2,4-trichlorobenzene | .67012 | .87006 | .05 | -30 | 20 | F |
| hexachlorobutadiene | .40664 | .48286 | .05 | -19 | 20 | |
| naphthalene | 1.0865 | 1.2667 | .05 | -17 | 20 | |
| 1,2,3-trichlorobenzene | .54585 | .75017 | .05 | -37 | 20 | F |
| dibromofluoromethane | .21421 | .22955 | .05 | -7 | 20 | |
| 1,2-dichloroethane-d4 | .25692 | .26761 | .05 | -4 | 20 | |
| toluene-d8 | 1.3727 | 1.3706 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | 1.0305 | .87575 | .05 | 15 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104712 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/15/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104712
**Report Date:** 04/15/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104712-01 | RUSSWELL-2011040-01 | WAYLAND, MA | 04/07/11 08:40 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | NO |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Report Submission

In reference to question A:

Air bubbles were present in the sample containers. The laboratory proceeded with the analysis with the client's authorization.

Volatile Organics

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG463009-1/-2 LCS/LCSD recoveries, associated with L1104712-01, are below the acceptance criteria

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712
**Project Number:** 0131386.01 **Report Date:** 04/15/11

**Case Narrative (continued)**

for Chloromethane (54%/56%), Bromomethane (60%/63%) and Dichlorodifluoromethane (52%/46%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for these compounds.

The WG463009-1 LCS recovery, associated with L1104712-01, is above the individual acceptance criteria for 1,2,3-Trichlorobenzene (137%), but within the overall method allowances. The results of the associated sample are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The initial calibration, associated with L1104712-01, did not meet the method required minimum response factors on the lowest calibration standards for 1,4-Dioxane (0.00222), as well as the average response factor for 1,4-Dioxane. In addition, a quadratic fit was utilized for Bromomethane.

The continuing calibration standard, associated with L1104712-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 04/15/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104712-01 | Date Collected: | 04/07/11 08:40 |
| Client ID: | RUSSWELL-2011040-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/14/11 19:07 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethy benzene | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Bromomethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

Lab ID: L1104712-01 Date Collected: 04/07/11 08:40

Client ID: RUSSWELL-2011040-01 Date Received: 04/08/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | -- | 1 |
| o-Xylene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Styrene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| Acetone | ND | | ug/l | 5.0 | -- | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | -- | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | -- | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | -- | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | -- | 1 |
| n-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- | 1 |
| Naphthalene | ND | | ug/l | 2.0 | -- | 1 |
| n-Propy benzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.0 | -- | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104712-01 | Date Collected: | 04/07/11 08:40 |
| Client ID: | RUSSWELL-2011040-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104712
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Methylene chloride | 101 | | 90 | | 70-130 | 12 | | 20 |
| 1,1-Dichloroethane | 100 | | 88 | | 70-130 | 13 | | 20 |
| Chloroform | 105 | | 94 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 103 | | 95 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 103 | | 92 | | 70-130 | 11 | | 20 |
| Dibromochloromethane | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 112 | | 100 | | 70-130 | 11 | | 20 |
| Chlorobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| Trichlorofluoromethane | 125 | | 110 | | 70-130 | 13 | | 20 |
| 1,2-Dichloroethane | 108 | | 98 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 85 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 103 | | 91 | | 70-130 | 12 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 76 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 89 | | 79 | | 70-130 | 12 | | 20 |
| 1,1-Dichloropropene | 98 | | 85 | | 70-130 | 14 | | 20 |
| Bromoform | 103 | | 97 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Benzene | 102 | | 91 | | 70-130 | 11 | | 20 |
| Toluene | 97 | | 88 | | 70-130 | 10 | | 20 |
| Ethylbenzene | 106 | | 96 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104712
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Chloromethane | **54** | Q | **56** | Q | 70-130 | 4 | | 20 |
| Bromomethane | **60** | Q | **63** | Q | 70-130 | 5 | | 20 |
| Vinyl chloride | 116 | | 106 | | 70-130 | 9 | | 20 |
| Chloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 91 | | 83 | | 70-130 | 9 | | 20 |
| trans-1,2-Dichloroethene | 96 | | 85 | | 70-130 | 12 | | 20 |
| Trichloroethene | 103 | | 91 | | 70-130 | 12 | | 20 |
| 1,2-Dichlorobenzene | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,3-Dichlorobenzene | 104 | | 94 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 84 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 110 | | 100 | | 70-130 | 10 | | 20 |
| o-Xylene | 110 | | 103 | | 70-130 | 7 | | 20 |
| cis-1,2-Dichloroethene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Dibromomethane | 108 | | 99 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 79 | | 70-130 | 7 | | 20 |
| Styrene | 114 | | 105 | | 70-130 | 8 | | 20 |
| Dichlorodifluoromethane | **52** | Q | **46** | Q | 70-130 | 12 | | 20 |
| Acetone | 97 | | 96 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 83 | | 76 | | 70-130 | 9 | | 20 |
| 2-Butanone | 94 | | 92 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104712
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 87 | | 86 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 88 | | 89 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 116 | | 102 | | 70-130 | 13 | | 20 |
| Tetrahydrofuran | 101 | | 101 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 93 | | 86 | | 70-130 | 8 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 108 | | 96 | | 70-130 | 12 | | 20 |
| Bromobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| n-Butylbenzene | 105 | | 92 | | 70-130 | 13 | | 20 |
| sec-Butylbenzene | 97 | | 85 | | 70-130 | 13 | | 20 |
| tert-Butylbenzene | 98 | | 87 | | 70-130 | 12 | | 20 |
| o-Chlorotoluene | 96 | | 84 | | 70-130 | 13 | | 20 |
| p-Chlorotoluene | 95 | | 86 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 119 | | 114 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 119 | | 100 | | 70-130 | 17 | | 20 |
| Isopropylbenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| p-Isopropyltoluene | 107 | | 94 | | 70-130 | 13 | | 20 |
| Naphthalene | 116 | | 110 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 96 | | 85 | | 70-130 | 12 | | 20 |
| 1,2,3-Trichlorobenzene | **137** | Q | 126 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104712
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 130 | | 116 | | 70-130 | 11 | | 20 |
| 1,3,5-Trimethylbenzene | 103 | | 90 | | 70-130 | 13 | | 20 |
| 1,2,4-Trimethylbenzene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Ethyl ether | 92 | | 90 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 89 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 93 | | 87 | | 70-130 | 7 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 89 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 105 | | 108 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 107 | | 70-130 |
| Toluene-d8 | 100 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 84 | | 70-130 |
| Dibromofluoromethane | 107 | | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104712
**Report Date:** 04/15/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

| Cooler Information Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104712-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104712-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104712 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104712 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104712
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:04151113:03

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA WOODS HOLE LABS

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

RAYNHAM, MA TEL: 508-822-9300 FAX: 508-822-3288

A

Date Rec'd in Lab: 4811

ALPHA Job #: L1104712

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flattery@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/15/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

| State /Fed Program | Criteria |
|---|---|
| MA MCP | GW-1 |

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: VOCs (8260B)

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do

Preservation
☐ Lab to do

(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (8260B) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 4712-01 | RUSSWELL-20110408-01 | 4/7/11 | 0840 | GW | SMC | 2 | | 2 |

Container Type

Preservative

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 4/8/11 900 | [illegible] | 4/8/11 0900 |
| [illegible] | 4/8/11 0900 | [illegible] | 4/8/11 0900 |
| [illegible] | 4/8/11 950 | [illegible] | 4/8/11 0950 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 10-OCT-05)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104712

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .28289 | .14629 | .05 | 48 | 20 | F |
| chloromethane | .24925 | .13346 | .05 | 46 | 20 | F |
| vinyl chloride | .13187 | .15271 | .05 | -16 | 20 | |
| bromomethane | 100 | 60.237 | .05 | 40 | 20 | F |
| chloroethane | .12647 | .13954 | .05 | -10 | 20 | |
| trichlorofluoromethane | .31877 | .39807 | .05 | -25 | 20 | F |
| ethyl ether | .14644 | .13548 | .05 | 7 | 20 | |
| acetone | 100 | 97.064 | .05 | 3 | 20 | |
| 1,1,-dichloroethene | .22801 | .20833 | .05 | 9 | 20 | |
| methylene chloride | .26678 | .26881 | .05 | -1 | 20 | |
| carbon disulfide | .73893 | .61242 | .05 | 17 | 20 | |
| methyl tert butyl ether | .67115 | .56241 | .05 | 16 | 20 | |
| trans-1,2-dichloroethene | .25462 | .24363 | .05 | 4 | 20 | |
| Diisopropyl Ether | 1.0026 | .88843 | .05 | 11 | 20 | |
| 1,1-dichloroethane | .47793 | .47948 | .05 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76715 | .71204 | .05 | 7 | 20 | |
| 2-butanone | .11017 | .10386 | .05 | 6 | 20 | |
| 2,2-dichloropropane | 100 | 98.956 | .05 | 1 | 20 | |
| cis-1,2-dichloroethene | .27823 | .29395 | .05 | -6 | 20 | |
| chloroform | .45304 | .477 | .05 | -5 | 20 | |
| bromochloromethane | .10531 | .12213 | .05 | -16 | 20 | |
| tetrahydrofuran | .06674 | .06771 | .05 | -1 | 20 | |
| 1,1,1-trichloroethane | 100 | 92.975 | .05 | 7 | 20 | |
| 1,1-dichloropropene | .36773 | .36052 | .05 | 2 | 20 | |
| carbontetrachloride | 100 | 103 | .05 | -3 | 20 | |
| Tertiary-Amyl Methyl Ether | .61944 | .56257 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .34478 | .37413 | .05 | -9 | 20 | |
| benzene | 1.0844 | 1.1075 | .05 | -2 | 20 | |
| trichloroethene | .26234 | .271 | .05 | -3 | 20 | |
| 1,2-dichloropropane | .26484 | .27199 | .05 | -3 | 20 | |
| bromodichloromethane | 100 | 103 | .05 | -3 | 20 | |
| 1,4-Dioxane | .00221 | .00233 | .05 | -5 | 20 | F |
| dibromomethane | .13285 | .14416 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .08117 | .07045 | .05 | 13 | 20 | |
| cis-1,3-dichloropropene | 100 | 88.791 | .05 | 11 | 20 | |
| toluene | 1.0085 | .97885 | .05 | 3 | 20 | |
| trans-1,3-dichloropropene | 100 | 84.120 | .05 | 16 | 20 | |
| 2-hexanone | .21591 | .18958 | .05 | 12 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104712

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24604 | .24238 | .05 | 1 | 20 | |
| 1,3-dichloropropane | .54589 | .53686 | .05 | 2 | 20 | |
| tetrachloroethene | .36438 | .40985 | .05 | -12 | 20 | |
| chlorodibromomethane | 100 | 104 | .05 | -4 | 20 | |
| 1,2-dibromoethane | 100 | 92.776 | .05 | 7 | 20 | |
| chlorobenzene | 1.0113 | 1.0392 | .05 | -3 | 20 | |
| 1,1,1,2-tetrachloroethane | 100 | 108 | .05 | -8 | 20 | |
| ethyl benzene | 1.8005 | 1.9153 | .05 | -6 | 20 | |
| p/m xylene | .66602 | .73518 | .05 | -10 | 20 | |
| o xylene | .6479 | .71449 | .05 | -10 | 20 | |
| styrene | 1.0832 | 1.2353 | .05 | -14 | 20 | |
| isopropylbenzene | 1.6819 | 1.8078 | .05 | -7 | 20 | |
| bromoform | 100 | 103 | .05 | -3 | 20 | |
| 1,1,2,2,-tetrachloroethane | .62605 | .54605 | .05 | 13 | 20 | |
| 1,2,3-trichloropropane | .5428 | .46193 | .05 | 15 | 20 | |
| n-propylbenzene | 3.8835 | 3.7378 | .05 | 4 | 20 | |
| bromobenzene | .79713 | .82008 | .05 | -3 | 20 | |
| 1,3,5-trimethybenzene | 2.6154 | 2.6840 | .05 | -3 | 20 | |
| 2-chlorotoluene | 2.7058 | 2.6101 | .05 | 4 | 20 | |
| 4-chorotoluene | 2.5561 | 2.4214 | .05 | 5 | 20 | |
| tert-butylbenzene | 2.2436 | 2.1883 | .05 | 2 | 20 | |
| 1,2,4-trimethylbenzene | 2.5074 | 2.6688 | .05 | -6 | 20 | |
| sec-butylbenzene | 3.3259 | 3.2395 | .05 | 3 | 20 | |
| p-isopropyltoluene | 2.5250 | 2.7073 | .05 | -7 | 20 | |
| 1,3-dichlorobenzene | 1.4280 | 1.4830 | .05 | -4 | 20 | |
| 1,4-dichlorobenzene | 1.4445 | 1.5443 | .05 | -7 | 20 | |
| n-butylbenzene | 2.7218 | 2.8539 | .05 | -5 | 20 | |
| 1,2-dichlorobenzene | 1.3394 | 1.4005 | .05 | -5 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 119 | .05 | -19 | 20 | |
| 1,2,4-trichlorobenzene | .67012 | .87006 | .05 | -30 | 20 | F |
| hexachlorobutadiene | .40664 | .48286 | .05 | -19 | 20 | |
| naphthalene | 1.0865 | 1.2667 | .05 | -17 | 20 | |
| 1,2,3-trichlorobenzene | .54585 | .75017 | .05 | -37 | 20 | F |
| dibromofluoromethane | .21421 | .22955 | .05 | -7 | 20 | |
| 1,2-dichloroethane-d4 | .25692 | .26761 | .05 | -4 | 20 | |
| toluene-d8 | 1.3727 | 1.3706 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | 1.0305 | .87575 | .05 | 15 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104711 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/15/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104711
**Report Date:** 04/15/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104711-01 | DEP-19M-20110407-01 | WAYLAND, MA | 04/07/11 12:25 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Volatile Organics

In reference to question H:

The WG463009-1/-2 LCS/LCSD recoveries, associated with L1104711-01, are below the acceptance criteria for Chloromethane (54%/56%) and Dichlorodifluoromethane (52%/46%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

The continuing calibration standard, associated with L1104711-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 04/15/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104711-01 | Date Collected: | 04/07/11 12:25 |
| Client ID: | DEP-19M-20110407-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/14/11 18:31 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.7 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

Lab ID: L1104711-01 Date Collected: 04/07/11 12:25

Client ID: DEP-19M-20110407-01 Date Received: 04/08/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104711
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Methylene chloride | 101 | | 90 | | 70-130 | 12 | | 20 |
| 1,1-Dichloroethane | 100 | | 88 | | 70-130 | 13 | | 20 |
| Chloroform | 105 | | 94 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 103 | | 95 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 103 | | 92 | | 70-130 | 11 | | 20 |
| Dibromochloromethane | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 112 | | 100 | | 70-130 | 11 | | 20 |
| Chlorobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| Trichlorofluoromethane | 125 | | 110 | | 70-130 | 13 | | 20 |
| 1,2-Dichloroethane | 108 | | 98 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 85 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 103 | | 91 | | 70-130 | 12 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 76 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 89 | | 79 | | 70-130 | 12 | | 20 |
| 1,1-Dichloropropene | 98 | | 85 | | 70-130 | 14 | | 20 |
| Bromoform | 103 | | 97 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Benzene | 102 | | 91 | | 70-130 | 11 | | 20 |
| Toluene | 97 | | 88 | | 70-130 | 10 | | 20 |
| Ethylbenzene | 106 | | 96 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104711
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Chloromethane | **54** | Q | **56** | Q | 70-130 | 4 | | 20 |
| Bromomethane | **60** | Q | **63** | Q | 70-130 | 5 | | 20 |
| Vinyl chloride | 116 | | 106 | | 70-130 | 9 | | 20 |
| Chloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 91 | | 83 | | 70-130 | 9 | | 20 |
| trans-1,2-Dichloroethene | 96 | | 85 | | 70-130 | 12 | | 20 |
| Trichloroethene | 103 | | 91 | | 70-130 | 12 | | 20 |
| 1,2-Dichlorobenzene | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,3-Dichlorobenzene | 104 | | 94 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 84 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 110 | | 100 | | 70-130 | 10 | | 20 |
| o-Xylene | 110 | | 103 | | 70-130 | 7 | | 20 |
| cis-1,2-Dichloroethene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Dibromomethane | 108 | | 99 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 79 | | 70-130 | 7 | | 20 |
| Styrene | 114 | | 105 | | 70-130 | 8 | | 20 |
| Dichlorodifluoromethane | **52** | Q | **46** | Q | 70-130 | 12 | | 20 |
| Acetone | 97 | | 96 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 83 | | 76 | | 70-130 | 9 | | 20 |
| 2-Butanone | 94 | | 92 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104711
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 87 | | 86 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 88 | | 89 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 116 | | 102 | | 70-130 | 13 | | 20 |
| Tetrahydrofuran | 101 | | 101 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 93 | | 86 | | 70-130 | 8 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 108 | | 96 | | 70-130 | 12 | | 20 |
| Bromobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| n-Butylbenzene | 105 | | 92 | | 70-130 | 13 | | 20 |
| sec-Butylbenzene | 97 | | 85 | | 70-130 | 13 | | 20 |
| tert-Butylbenzene | 98 | | 87 | | 70-130 | 12 | | 20 |
| o-Chlorotoluene | 96 | | 84 | | 70-130 | 13 | | 20 |
| p-Chlorotoluene | 95 | | 86 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 119 | | 114 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 119 | | 100 | | 70-130 | 17 | | 20 |
| Isopropylbenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| p-Isopropyltoluene | 107 | | 94 | | 70-130 | 13 | | 20 |
| Naphthalene | 116 | | 110 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 96 | | 85 | | 70-130 | 12 | | 20 |
| 1,2,3-Trichlorobenzene | **137** | Q | 126 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104711

**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 130 | | 116 | | 70-130 | 11 | | 20 |
| 1,3,5-Trimethylbenzene | 103 | | 90 | | 70-130 | 13 | | 20 |
| 1,2,4-Trimethylbenzene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Ethyl ether | 92 | | 90 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 89 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 93 | | 87 | | 70-130 | 7 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 89 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 105 | | 108 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 107 | | 70-130 |
| Toluene-d8 | 100 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 84 | | 70-130 |
| Dibromofluoromethane | 107 | | 105 | | 70-130 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104711
**Report Date:** 04/15/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

| Cooler Information Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104711-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104711-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1104711 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1104711 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104711
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:04151112:54

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

D

Date Rec'd in Lab: 4/8/11

ALPHA Job #: L1047 11

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flattery@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/15/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP Criteria GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: CVOCs (8021C by 8260B)

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8021C by 8260B) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 4711-01 | DEP-19M-20110407-01 | 4/7/11 | 1225 | GW | LJM | 2 | | 2 |

| | |
|---|---|
| Container Type | V |
| Preservative | B |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 4/8/11 900 | [illegible] | 4/8/11 0900 |
| [illegible] | 4/8/11 0900 | [illegible] | 4/8/11 GW |
| [illegible] | 4/8/11 950 | [illegible] | 4/8/11 0950 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104711

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .28289 | .14629 | .05 | 48 | 20 | F |
| chloromethane | .24925 | .13346 | .05 | 46 | 20 | F |
| vinyl chloride | .13187 | .15271 | .05 | -16 | 20 | |
| bromomethane | 100 | 60.237 | .05 | 40 | 20 | F |
| chloroethane | .12647 | .13954 | .05 | -10 | 20 | |
| trichlorofluoromethane | .31877 | .39807 | .05 | -25 | 20 | F |
| ethyl ether | .14644 | .13548 | .05 | 7 | 20 | |
| acetone | 100 | 97.064 | .05 | 3 | 20 | |
| 1,1,-dichloroethene | .22801 | .20833 | .05 | 9 | 20 | |
| methylene chloride | .26678 | .26881 | .05 | -1 | 20 | |
| carbon disulfide | .73893 | .61242 | .05 | 17 | 20 | |
| methyl tert butyl ether | .67115 | .56241 | .05 | 16 | 20 | |
| trans-1,2-dichloroethene | .25462 | .24363 | .05 | 4 | 20 | |
| Diisopropyl Ether | 1.0026 | .88843 | .05 | 11 | 20 | |
| 1,1-dichloroethane | .47793 | .47948 | .05 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76715 | .71204 | .05 | 7 | 20 | |
| 2-butanone | .11017 | .10386 | .05 | 6 | 20 | |
| 2,2-dichloropropane | 100 | 98.956 | .05 | 1 | 20 | |
| cis-1,2-dichloroethene | .27823 | .29395 | .05 | -6 | 20 | |
| chloroform | .45304 | .477 | .05 | -5 | 20 | |
| bromochloromethane | .10531 | .12213 | .05 | -16 | 20 | |
| tetrahydrofuran | .06674 | .06771 | .05 | -1 | 20 | |
| 1,1,1-trichloroethane | 100 | 92.975 | .05 | 7 | 20 | |
| 1,1-dichloropropene | .36773 | .36052 | .05 | 2 | 20 | |
| carbontetrachloride | 100 | 103 | .05 | -3 | 20 | |
| Tertiary-Amyl Methyl Ether | .61944 | .56257 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .34478 | .37413 | .05 | -9 | 20 | |
| benzene | 1.0844 | 1.1075 | .05 | -2 | 20 | |
| trichloroethene | .26234 | .271 | .05 | -3 | 20 | |
| 1,2-dichloropropane | .26484 | .27199 | .05 | -3 | 20 | |
| bromodichloromethane | 100 | 103 | .05 | -3 | 20 | |
| 1,4-Dioxane | .00221 | .00233 | .05 | -5 | 20 | F |
| dibromomethane | .13285 | .14416 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .08117 | .07045 | .05 | 13 | 20 | |
| cis-1,3-dichloropropene | 100 | 88.791 | .05 | 11 | 20 | |
| toluene | 1.0085 | .97885 | .05 | 3 | 20 | |
| trans-1,3-dichloropropene | 100 | 84.120 | .05 | 16 | 20 | |
| 2-hexanone | .21591 | .18958 | .05 | 12 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104711

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24604 | .24238 | .05 | 1 | 20 | |
| 1,3-dichloropropane | .54589 | .53686 | .05 | 2 | 20 | |
| tetrachloroethene | .36438 | .40985 | .05 | -12 | 20 | |
| chlorodibromomethane | 100 | 104 | .05 | -4 | 20 | |
| 1,2-dibromoethane | 100 | 92.776 | .05 | 7 | 20 | |
| chlorobenzene | 1.0113 | 1.0392 | .05 | -3 | 20 | |
| 1,1,1,2-tetrachloroethane | 100 | 108 | .05 | -8 | 20 | |
| ethyl benzene | 1.8005 | 1.9153 | .05 | -6 | 20 | |
| p/m xylene | .66602 | .73518 | .05 | -10 | 20 | |
| o xylene | .6479 | .71449 | .05 | -10 | 20 | |
| styrene | 1.0832 | 1.2353 | .05 | -14 | 20 | |
| isopropylbenzene | 1.6819 | 1.8078 | .05 | -7 | 20 | |
| bromoform | 100 | 103 | .05 | -3 | 20 | |
| 1,1,2,2,-tetrachloroethane | .62605 | .54605 | .05 | 13 | 20 | |
| 1,2,3-trichloropropane | .5428 | .46193 | .05 | 15 | 20 | |
| n-propylbenzene | 3.8835 | 3.7378 | .05 | 4 | 20 | |
| bromobenzene | .79713 | .82008 | .05 | -3 | 20 | |
| 1,3,5-trimethybenzene | 2.6154 | 2.6840 | .05 | -3 | 20 | |
| 2-chlorotoluene | 2.7058 | 2.6101 | .05 | 4 | 20 | |
| 4-chorotoluene | 2.5561 | 2.4214 | .05 | 5 | 20 | |
| tert-butylbenzene | 2.2436 | 2.1883 | .05 | 2 | 20 | |
| 1,2,4-trimethylbenzene | 2.5074 | 2.6688 | .05 | -6 | 20 | |
| sec-butylbenzene | 3.3259 | 3.2395 | .05 | 3 | 20 | |
| p-isopropyltoluene | 2.5250 | 2.7073 | .05 | -7 | 20 | |
| 1,3-dichlorobenzene | 1.4280 | 1.4830 | .05 | -4 | 20 | |
| 1,4-dichlorobenzene | 1.4445 | 1.5443 | .05 | -7 | 20 | |
| n-butylbenzene | 2.7218 | 2.8539 | .05 | -5 | 20 | |
| 1,2-dichlorobenzene | 1.3394 | 1.4005 | .05 | -5 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 119 | .05 | -19 | 20 | |
| 1,2,4-trichlorobenzene | .67012 | .87006 | .05 | -30 | 20 | F |
| hexachlorobutadiene | .40664 | .48286 | .05 | -19 | 20 | |
| naphthalene | 1.0865 | 1.2667 | .05 | -17 | 20 | |
| 1,2,3-trichlorobenzene | .54585 | .75017 | .05 | -37 | 20 | F |
| dibromofluoromethane | .21421 | .22955 | .05 | -7 | 20 | |
| 1,2-dichloroethane-d4 | .25692 | .26761 | .05 | -4 | 20 | |
| toluene-d8 | 1.3727 | 1.3706 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | 1.0305 | .87575 | .05 | 15 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104710 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/15/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104710
**Report Date:** 04/15/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104710-01 | MW-554D-20110407-01 | WAYLAND, MA | 04/07/11 11:20 |
| L1104710-02 | MW-555D-20110407-01 | WAYLAND, MA | 04/07/11 12:45 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Report Submission

The analysis of 1,4-Dioxane by method 8270-SIM isotope dilution was performed at our Mansfield facility, and the results will be issued under separate cover.

Volatile Organics

In reference to question H:

The WG463009-1/-2 LCS/LCSD recoveries, associated with L1104710-01 and -02, are below the acceptance criteria for Chloromethane (54%/56%) and Dichlorodifluoromethane (52%/46%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds. The continuing calibration standard, associated with L1104710-01 and -02, is outside the acceptance criteria

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104710 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

**Case Narrative (continued)**

for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 04/15/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104710-01 | Date Collected: | 04/07/11 11:20 |
| Client ID: | MW-554D-20110407-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/14/11 17:22 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104710-01 | Date Collected: | 04/07/11 11:20 |
| Client ID: | MW-554D-20110407-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 84 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104710-02 | Date Collected: | 04/07/11 12:45 |
| Client ID: | MW-555D-20110407-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/14/11 17:56 | | |
| Analyst: | PD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

## SAMPLE RESULTS

Lab ID: L1104710-02 Date Collected: 04/07/11 12:45

Client ID: MW-555D-20110407-01 Date Received: 04/08/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 84 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG463009-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG463009-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710

**Project Number:** 0131386.01 **Report Date:** 04/15/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG463009-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104710
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Methylene chloride | 101 | | 90 | | 70-130 | 12 | | 20 |
| 1,1-Dichloroethane | 100 | | 88 | | 70-130 | 13 | | 20 |
| Chloroform | 105 | | 94 | | 70-130 | 11 | | 20 |
| Carbon tetrachloride | 103 | | 95 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | 103 | | 92 | | 70-130 | 11 | | 20 |
| Dibromochloromethane | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 112 | | 100 | | 70-130 | 11 | | 20 |
| Chlorobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| Trichlorofluoromethane | 125 | | 110 | | 70-130 | 13 | | 20 |
| 1,2-Dichloroethane | 108 | | 98 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 85 | | 70-130 | 9 | | 20 |
| Bromodichloromethane | 103 | | 91 | | 70-130 | 12 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 76 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 89 | | 79 | | 70-130 | 12 | | 20 |
| 1,1-Dichloropropene | 98 | | 85 | | 70-130 | 14 | | 20 |
| Bromoform | 103 | | 97 | | 70-130 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Benzene | 102 | | 91 | | 70-130 | 11 | | 20 |
| Toluene | 97 | | 88 | | 70-130 | 10 | | 20 |
| Ethylbenzene | 106 | | 96 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104710
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| Chloromethane | **54** | Q | **56** | Q | 70-130 | 4 | | 20 |
| Bromomethane | **60** | Q | **63** | Q | 70-130 | 5 | | 20 |
| Vinyl chloride | 116 | | 106 | | 70-130 | 9 | | 20 |
| Chloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethene | 91 | | 83 | | 70-130 | 9 | | 20 |
| trans-1,2-Dichloroethene | 96 | | 85 | | 70-130 | 12 | | 20 |
| Trichloroethene | 103 | | 91 | | 70-130 | 12 | | 20 |
| 1,2-Dichlorobenzene | 104 | | 95 | | 70-130 | 9 | | 20 |
| 1,3-Dichlorobenzene | 104 | | 94 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 84 | | 82 | | 70-130 | 2 | | 20 |
| p/m-Xylene | 110 | | 100 | | 70-130 | 10 | | 20 |
| o-Xylene | 110 | | 103 | | 70-130 | 7 | | 20 |
| cis-1,2-Dichloroethene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Dibromomethane | 108 | | 99 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichloropropane | 85 | | 79 | | 70-130 | 7 | | 20 |
| Styrene | 114 | | 105 | | 70-130 | 8 | | 20 |
| Dichlorodifluoromethane | **52** | Q | **46** | Q | 70-130 | 12 | | 20 |
| Acetone | 97 | | 96 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 83 | | 76 | | 70-130 | 9 | | 20 |
| 2-Butanone | 94 | | 92 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104710
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 87 | | 86 | | 70-130 | 1 | | 20 |
| 2-Hexanone | 88 | | 89 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 116 | | 102 | | 70-130 | 13 | | 20 |
| Tetrahydrofuran | 101 | | 101 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 93 | | 86 | | 70-130 | 8 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 108 | | 96 | | 70-130 | 12 | | 20 |
| Bromobenzene | 103 | | 92 | | 70-130 | 11 | | 20 |
| n-Butylbenzene | 105 | | 92 | | 70-130 | 13 | | 20 |
| sec-Butylbenzene | 97 | | 85 | | 70-130 | 13 | | 20 |
| tert-Butylbenzene | 98 | | 87 | | 70-130 | 12 | | 20 |
| o-Chlorotoluene | 96 | | 84 | | 70-130 | 13 | | 20 |
| p-Chlorotoluene | 95 | | 86 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 119 | | 114 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 119 | | 100 | | 70-130 | 17 | | 20 |
| Isopropylbenzene | 107 | | 97 | | 70-130 | 10 | | 20 |
| p-Isopropyltoluene | 107 | | 94 | | 70-130 | 13 | | 20 |
| Naphthalene | 116 | | 110 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 96 | | 85 | | 70-130 | 12 | | 20 |
| 1,2,3-Trichlorobenzene | **137** | Q | 126 | | 70-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104710
**Report Date:** 04/15/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG463009-1 WG463009-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 130 | | 116 | | 70-130 | 11 | | 20 |
| 1,3,5-Trimethylbenzene | 103 | | 90 | | 70-130 | 13 | | 20 |
| 1,2,4-Trimethylbenzene | 106 | | 94 | | 70-130 | 12 | | 20 |
| Ethyl ether | 92 | | 90 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 89 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl-Tert-Butyl-Ether | 93 | | 87 | | 70-130 | 7 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 89 | | 70-130 | 2 | | 20 |
| 1,4-Dioxane | 105 | | 108 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 107 | | 70-130 |
| Toluene-d8 | 100 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 85 | | 84 | | 70-130 |
| Dibromofluoromethane | 107 | | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104710
**Report Date:** 04/15/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

| Cooler Information Cooler | Custody Seal |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104710-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104710-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104710-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104710-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104710 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104710 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/15/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104710
**Project Number:** 0131386.01 **Report Date:** 04/15/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 1

C

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/8/11

ALPHA Job #: L1104710

**Client Information**

Client: ERM

Address: 399 Boylston St. 6th Floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland

Project Location: 0131386.01

Project #: Wayland, MA

Project Manager: Jason Flatteny

ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/15/11 Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program: MA MCP Criteria: GW-1

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOCs (8021C + 8260) 1,4 Dioxane (8270SIM)

SAMPLE HANDLING

Filtration: ☐ Done ☐ Not needed ☐ Lab to do

Preservation: ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (8021C + 8260) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 4710-01 | MW-554D-20110407-01 | 4/7/11 | 1120 | GW | SMC | 2 | | | 2 |
| -02 | MW-555D-20110407-01 | 4/7/11 | 1245 | GW | SMC | 2 | 2 | | 4 |

Container Type

Preservative

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 4/8/11 900 | [illegible] | 4/8/11 0900 |
| [illegible] | 4/8/11 0900 | [illegible] | 4/8/11 0955 |
| [illegible] | 4/8/11 950 | [illegible] | 4/8/11 0950 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:04151112:54

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104710

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .28289 | .14629 | .05 | 48 | 20 | F |
| chloromethane | .24925 | .13346 | .05 | 46 | 20 | F |
| vinyl chloride | .13187 | .15271 | .05 | -16 | 20 | |
| bromomethane | 100 | 60.237 | .05 | 40 | 20 | F |
| chloroethane | .12647 | .13954 | .05 | -10 | 20 | |
| trichlorofluoromethane | .31877 | .39807 | .05 | -25 | 20 | F |
| ethyl ether | .14644 | .13548 | .05 | 7 | 20 | |
| acetone | 100 | 97.064 | .05 | 3 | 20 | |
| 1,1,-dichloroethene | .22801 | .20833 | .05 | 9 | 20 | |
| methylene chloride | .26678 | .26881 | .05 | -1 | 20 | |
| carbon disulfide | .73893 | .61242 | .05 | 17 | 20 | |
| methyl tert butyl ether | .67115 | .56241 | .05 | 16 | 20 | |
| trans-1,2-dichloroethene | .25462 | .24363 | .05 | 4 | 20 | |
| Diisopropyl Ether | 1.0026 | .88843 | .05 | 11 | 20 | |
| 1,1-dichloroethane | .47793 | .47948 | .05 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .76715 | .71204 | .05 | 7 | 20 | |
| 2-butanone | .11017 | .10386 | .05 | 6 | 20 | |
| 2,2-dichloropropane | 100 | 98.956 | .05 | 1 | 20 | |
| cis-1,2-dichloroethene | .27823 | .29395 | .05 | -6 | 20 | |
| chloroform | .45304 | .477 | .05 | -5 | 20 | |
| bromochloromethane | .10531 | .12213 | .05 | -16 | 20 | |
| tetrahydrofuran | .06674 | .06771 | .05 | -1 | 20 | |
| 1,1,1-trichloroethane | 100 | 92.975 | .05 | 7 | 20 | |
| 1,1-dichloropropene | .36773 | .36052 | .05 | 2 | 20 | |
| carbontetrachloride | 100 | 103 | .05 | -3 | 20 | |
| Tertiary-Amyl Methyl Ether | .61944 | .56257 | .05 | 9 | 20 | |
| 1,2-dichloroethane | .34478 | .37413 | .05 | -9 | 20 | |
| benzene | 1.0844 | 1.1075 | .05 | -2 | 20 | |
| trichloroethene | .26234 | .271 | .05 | -3 | 20 | |
| 1,2-dichloropropane | .26484 | .27199 | .05 | -3 | 20 | |
| bromodichloromethane | 100 | 103 | .05 | -3 | 20 | |
| 1,4-Dioxane | .00221 | .00233 | .05 | -5 | 20 | F |
| dibromomethane | .13285 | .14416 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .08117 | .07045 | .05 | 13 | 20 | |
| cis-1,3-dichloropropene | 100 | 88.791 | .05 | 11 | 20 | |
| toluene | 1.0085 | .97885 | .05 | 3 | 20 | |
| trans-1,3-dichloropropene | 100 | 84.120 | .05 | 16 | 20 | |
| 2-hexanone | .21591 | .18958 | .05 | 12 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104710

Instrument ID: Elaine.i  Calibration Date: 14-APR-2011  Time: 08:03

Lab File ID: 0414A01  Init. Calib. Date(s): 02-MAR-2  02-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 11:13  14:41

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 1,1,2-trichloroethane | .24604 | .24238 | .05 | 1 | 20 | |
| 1,3-dichloropropane | .54589 | .53686 | .05 | 2 | 20 | |
| tetrachloroethene | .36438 | .40985 | .05 | -12 | 20 | |
| chlorodibromomethane | 100 | 104 | .05 | -4 | 20 | |
| 1,2-dibromoethane | 100 | 92.776 | .05 | 7 | 20 | |
| chlorobenzene | 1.0113 | 1.0392 | .05 | -3 | 20 | |
| 1,1,1,2-tetrachloroethane | 100 | 108 | .05 | -8 | 20 | |
| ethyl benzene | 1.8005 | 1.9153 | .05 | -6 | 20 | |
| p/m xylene | .66602 | .73518 | .05 | -10 | 20 | |
| o xylene | .6479 | .71449 | .05 | -10 | 20 | |
| styrene | 1.0832 | 1.2353 | .05 | -14 | 20 | |
| isopropylbenzene | 1.6819 | 1.8078 | .05 | -7 | 20 | |
| bromoform | 100 | 103 | .05 | -3 | 20 | |
| 1,1,2,2,-tetrachloroethane | .62605 | .54605 | .05 | 13 | 20 | |
| 1,2,3-trichloropropane | .5428 | .46193 | .05 | 15 | 20 | |
| n-propylbenzene | 3.8835 | 3.7378 | .05 | 4 | 20 | |
| bromobenzene | .79713 | .82008 | .05 | -3 | 20 | |
| 1,3,5-trimethybenzene | 2.6154 | 2.6840 | .05 | -3 | 20 | |
| 2-chlorotoluene | 2.7058 | 2.6101 | .05 | 4 | 20 | |
| 4-chorotoluene | 2.5561 | 2.4214 | .05 | 5 | 20 | |
| tert-butylbenzene | 2.2436 | 2.1883 | .05 | 2 | 20 | |
| 1,2,4-trimethylbenzene | 2.5074 | 2.6688 | .05 | -6 | 20 | |
| sec-butylbenzene | 3.3259 | 3.2395 | .05 | 3 | 20 | |
| p-isopropyltoluene | 2.5250 | 2.7073 | .05 | -7 | 20 | |
| 1,3-dichlorobenzene | 1.4280 | 1.4830 | .05 | -4 | 20 | |
| 1,4-dichlorobenzene | 1.4445 | 1.5443 | .05 | -7 | 20 | |
| n-butylbenzene | 2.7218 | 2.8539 | .05 | -5 | 20 | |
| 1,2-dichlorobenzene | 1.3394 | 1.4005 | .05 | -5 | 20 | |
| 1,2-dibromo-3-chloropropane | 100 | 119 | .05 | -19 | 20 | |
| 1,2,4-trichlorobenzene | .67012 | .87006 | .05 | -30 | 20 | F |
| hexachlorobutadiene | .40664 | .48286 | .05 | -19 | 20 | |
| naphthalene | 1.0865 | 1.2667 | .05 | -17 | 20 | |
| 1,2,3-trichlorobenzene | .54585 | .75017 | .05 | -37 | 20 | F |
| dibromofluoromethane | .21421 | .22955 | .05 | -7 | 20 | |
| 1,2-dichloroethane-d4 | .25692 | .26761 | .05 | -4 | 20 | |
| toluene-d8 | 1.3727 | 1.3706 | .05 | 0 | 20 | |
| 4-bromofluorobenzene | 1.0305 | .87575 | .05 | 15 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104709 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/13/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104709
**Report Date:** 04/13/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104709-01 | MW-555D-20110407-01 | WAYLAND, MA | 04/07/11 12:45 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104709

**Project Number:** 0131386.01 **Report Date:** 04/13/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104709
**Project Number:** 0131386.01 **Report Date:** 04/13/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

1,4-Dioxane by 8270-SIM

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 04/13/11

# ORGANICS

# SEMIVOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104709

**Project Number:** 0131386.01 **Report Date:** 04/13/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104709-01 | Date Collected: | 04/07/11 12:45 |
| Client ID: | MW-555D-20110407-01 | Date Received: | 04/08/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/11/11 10:30 |
| Analytical Date: | 04/12/11 23:52 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 1890 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 24 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104709
**Report Date:** 04/13/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 04/12/11 10:39
Analyst: JD

Extraction Method: EPA 3510C
Extraction Date: 04/11/11 10:30

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab for sample(s): 01 Batch: WG462374-1 | | | | | |
| 1,4-Dioxane | ND | | ng/l | 500 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 30 | | 15-110 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104709

**Report Date:** 04/13/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG462374-2 WG462374-3 | | | | | | | | |
| 1,4-Dioxane | 110 | | 111 | | 40-140 | 1 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,4-Dioxane-d8 | 31 | | 32 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104709
**Report Date:** 04/13/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104709-01A | Amber 1000ml unpreserved | A | 7 | 2 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104709-01B | Amber 1000ml unpreserved | A | 7 | 2 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104709 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/13/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104709 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/13/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104709
**Project Number:** 0131386.01 **Report Date:** 04/13/11

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# Certificate/Approval Program Summary

Last revised March 23, 2011 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C.)

*Biological Tissue* (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C.)

*Air & Emissions* (EPA TO-15.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA, 245.1, 245.7, 1631E, 180.1, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081, 8082, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7470A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, SM2320B, EPA 200.8, SM2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 7470A, 9040B, 6020, 9010B, 9014 Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640C, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9040B, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 9014, 9040B, 120.1, SM2510B, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

*Air* (Organic Parameters: EPA TO-15)

**Washington State Department of Ecology** Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 2510B, EPA 120.1, 180.1, 1631E, 245.7.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 9040, 9060, 6020, 7470, 7471, 7474. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270, 8260.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015-DRO.

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 4/8/11 ALPHA Job #: L1104709

ALPHA Analytical
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

C

## Client Information

Client: ERM
Address: 399 Boylston St. 6th floor Boston, MA
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland
Project Location: 0131386.01
Project #: Wayland, MA
Project Manager: Jason Flatteny
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 4/22/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW-1

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOCs (8021C+8260) 1,4-Dioxane (8270SIM)

SAMPLE HANDLING
Filtration: ☐ Done ☐ Not needed ☐ Lab to do
Preservation: ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (8021C+8260) | 1,4-Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| L | MW-554D-20110407-01 | 4/7/11 | 1120 | GW | SMC | 2 | | | 2 |
| 4709-01 | MW-555D-20110407-01 | 4/7/11 | 1245 | GW | SMC | 2 | 2 | | 4 |

| Container Type | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservative | | | | | | | | | | | | | | | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 4/8/11 900 | [signature] | 4/8/11 0900 |
| [signature] | 4/8/11 0900 | [signature] | 4/8/11 0955 |
| [signature] | 4/8/11 950 | [signature] | 4/8/11 0950 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: ALPHA Job #:

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

C

## Client Information

Client: ERM
Address: 399 Boylston St. 6th Floor Boston, MA
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flatteny@erm.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland
Project Location: 0131386.01
Project #: Wayland, MA
Project Manager: Jason Flatteny
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 4/22/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: VOCs (8021C+8260) + 1,4-Dioxane (8270SIM)

SAMPLE HANDLING
Filtration: ☐ Done ☐ Not needed ☐ Lab to do
Preservation: ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (8021C+8260) | 1,4-Dioxane (8270SIM) | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | MW-554D-20110407-01 | 4/7/11 | 1120 | GW | SMC | 2 | | | 2 |
| [illegible] | MW-555D-20110407-01 | 4/7/11 | 1245 | GW | SMC | 2 | 2 | | 4 |

Container Type
Preservative

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 4/8/11 900 | [signature] | 4/8/11 0900 |
| [signature] | 4/8/11 0900 | [signature] | 4/8/11 0955 |
| [signature] | 4/8/11 | [signature] | 4/8/11 0950 |
| [signature] | 4/8/11 | [signature] | 4-11-11 TCC |

Rol Pfleil 4-11-11

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104476 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/12/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104476
**Report Date:** 04/12/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104476-01 | MW-202M-20110405-01 | WAYLAND, MA | 04/05/11 10:45 |
| L1104476-02 | MW-40-20110405-01 | WAYLAND, MA | 04/05/11 09:50 |
| L1104476-03 | MW-45B-20110405-01 | WAYLAND, MA | 04/05/11 13:45 |
| L1104476-04 | MW-46M-20110405-01 | WAYLAND, MA | 04/05/11 09:35 |
| L1104476-05 | MW-47M-20110405-01 | WAYLAND, MA | 04/05/11 15:25 |
| L1104476-06 | MW-115-20110405-01 | WAYLAND, MA | 04/05/11 12:35 |
| L1104476-07 | DUP-004-20110405-01 | WAYLAND, MA | 04/05/11 11:11 |
| L1104476-08 | TB-002-20110405-01 | WAYLAND, MA | 04/05/11 00:00 |
| L1104476-09 | MW-203D-20110405-01 | WAYLAND, MA | 04/05/11 13:10 |
| L1104476-10 | MW-205M-20110405-01 | WAYLAND, MA | 04/05/11 10:45 |
| L1104476-11 | MW-206M-20110405-01 | WAYLAND, MA | 04/05/11 12:45 |
| L1104476-12 | MW-206D-20110405-01 | WAYLAND, MA | 04/05/11 14:35 |
| L1104476-13 | MW-207M-20110405-01 | WAYLAND, MA | 04/05/11 15:40 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | NO |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476
**Project Number:** 0131386.01 **Report Date:** 04/12/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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MCP Related Narratives

Report Submission

The analysis of 1,4-Dioxane by method 8270-SIM isotope dilution was performed at our Mansfield facility. The results have been provided under separate cover.

Volatile Organics

L1104476-10 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1104476-10: One or more of the target analytes did not achieve the requested CAM reporting limits.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476
**Project Number:** 0131386.01 **Report Date:** 04/12/11

**Case Narrative (continued)**

In reference to question H:

The WG462318-2 LCSD recovery, associated with L1104476-01, -02, -03 and -08, is below the individual acceptance criteria for trans-1,3-Dichloropropene (68%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG462491-2 LCSD recovery, associated with L1104476-04, is below the individual acceptance criteria for trans-1,3-Dichloropropene (68%), but within the overall method allowances. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

The continuing calibration standard, associated with L1104476-05, -06, -07 and -10 through -13, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 04/12/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-01 | Date Collected: | 04/05/11 10:45 |
| Client ID: | MW-202M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/09/11 19:11 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 22 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 79 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-01 | Date Collected: | 04/05/11 10:45 |
| Client ID: | MW-202M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-02 | Date Collected: | 04/05/11 09:50 |
| Client ID: | MW-40-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/09/11 19:42 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.4 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.5 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-02 | Date Collected: | 04/05/11 09:50 |
| Client ID: | MW-40-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-03 | Date Collected: | 04/05/11 13:45 |
| Client ID: | MW-45B-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/09/11 20:14 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 100 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 18 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-03 | Date Collected: | 04/05/11 13:45 |
| Client ID: | MW-45B-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-04 | Date Collected: | 04/05/11 09:35 |
| Client ID: | MW-46M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/09/11 20:46 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-04 | Date Collected: | 04/05/11 09:35 |
| Client ID: | MW-46M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-05 | Date Collected: | 04/05/11 15:25 |
| Client ID: | MW-47M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 09:31 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 35 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 5.4 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-05 | Date Collected: | 04/05/11 15:25 |
| Client ID: | MW-47M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-06 | Date Collected: | 04/05/11 12:35 |
| Client ID: | MW-115-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 10:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 17 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 65 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-06 | Date Collected: | 04/05/11 12:35 |
| Client ID: | MW-115-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-07 | Date Collected: | 04/05/11 11:11 |
| Client ID: | DUP-004-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 08:45 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | 1.8 | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 96 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 17 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

Lab ID: L1104476-07 Date Collected: 04/05/11 11:11

Client ID: DUP-004-20110405-01 Date Received: 04/05/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-08 | Date Collected: | 04/05/11 00:00 |
| Client ID: | TB-002-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/09/11 11:17 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

Lab ID: L1104476-08 Date Collected: 04/05/11 00:00

Client ID: TB-002-20110405-01 Date Received: 04/05/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-09 | Date Collected: | 04/05/11 13:10 |
| Client ID: | MW-203D-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 15:02 | | |
| Analyst: | CF | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 2.5 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 94 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 7.7 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

Lab ID: L1104476-09 Date Collected: 04/05/11 13:10

Client ID: MW-203D-20110405-01 Date Received: 04/05/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-10 D | Date Collected: | 04/05/11 10:45 |
| Client ID: | MW-205M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 12:13 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroform | ND | | ug/l | 2.5 | -- | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Tetrachloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Chlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,1,1-Trichloroethane | 36 | | ug/l | 2.5 | -- | 2.5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| Vinyl chloride | ND | | ug/l | 2.5 | -- | 2.5 |
| Chloroethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Trichloroethene | 140 | | ug/l | 2.5 | -- | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- | 2.5 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

Lab ID: L1104476-10 D Date Collected: 04/05/11 10:45

Client ID: MW-205M-20110405-01 Date Received: 04/05/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 1.5 | -- | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 93 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-11 | Date Collected: | 04/05/11 12:45 |
| Client ID: | MW-206M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 09:17 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.0 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 20 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-11 | Date Collected: | 04/05/11 12:45 |
| Client ID: | MW-206M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-12 | Date Collected: | 04/05/11 14:35 |
| Client ID: | MW-206D-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 12:46 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 33 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 6.0 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-12 | Date Collected: | 04/05/11 14:35 |
| Client ID: | MW-206D-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104476-13 | Date Collected: | 04/05/11 15:40 |
| Client ID: | MW-207M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 13:18 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 11 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.5 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

## SAMPLE RESULTS

Lab ID: L1104476-13 Date Collected: 04/05/11 15:40

Client ID: MW-207M-20110405-01 Date Received: 04/05/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/09/11 10:46
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,08 Batch: WG462318-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/09/11 10:46
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03,08 Batch: WG462318-3 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/09/11 10:46
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG462491-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/09/11 10:46
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 04 Batch: WG462491-3 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 09 Batch: WG462491-6 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: CF

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 09 Batch: WG462491-6 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-06,10,12-13 Batch: WG462495-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-06,10,12-13 Batch: WG462495-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 05-06,10,12-13 Batch: WG462495-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 07,11 Batch: WG462540-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 07,11 Batch: WG462540-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476

**Project Number:** 0131386.01 **Report Date:** 04/12/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 07,11 Batch: WG462540-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,08 Batch: WG462318-1 WG462318-2 | | | | | | | | |
| Methylene chloride | 103 | | 104 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| Chloroform | 103 | | 99 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 90 | | 77 | | 70-130 | 16 | | 20 |
| 1,2-Dichloropropane | 96 | | 93 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 95 | | 84 | | 70-130 | 12 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 102 | | 102 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,2-Dichloroethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 85 | | 70-130 | 10 | | 20 |
| Bromodichloromethane | 100 | | 89 | | 70-130 | 12 | | 20 |
| trans-1,3-Dichloropropene | 74 | | **68** | Q | 70-130 | 8 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 75 | | 70-130 | 9 | | 20 |
| Bromoform | 94 | | 79 | | 70-130 | 17 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 96 | | 70-130 | 5 | | 20 |
| Chloromethane | 85 | | 86 | | 70-130 | 1 | | 20 |
| Vinyl chloride | 98 | | 98 | | 70-130 | 0 | | 20 |
| Chloroethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 103 | | 102 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 99 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03,08 Batch: WG462318-1 WG462318-2 | | | | | | | | |
| Trichloroethene | 102 | | 100 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 96 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 105 | | 104 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 74 | | 75 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 102 | | 97 | | 70-130 | 5 | | 20 |
| 1,3-Dichloropropane | 100 | | 101 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 86 | | 77 | | 70-130 | 11 | | 20 |
| o-Chlorotoluene | 96 | | 94 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 97 | | 95 | | 70-130 | 2 | | 20 |
| Hexachlorobutadiene | 91 | | 93 | | 70-130 | 2 | | 20 |
| 1,2,4-Trichlorobenzene | 90 | | 89 | | 70-130 | 1 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 103 | | 70-130 |
| Toluene-d8 | 97 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 |
| Dibromofluoromethane | 102 | | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG462491-1 WG462491-2 | | | | | | | | |
| Methylene chloride | 103 | | 104 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 98 | | 96 | | 70-130 | 2 | | 20 |
| Chloroform | 103 | | 99 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 90 | | 77 | | 70-130 | 16 | | 20 |
| 1,2-Dichloropropane | 96 | | 93 | | 70-130 | 3 | | 20 |
| Dibromochloromethane | 95 | | 84 | | 70-130 | 12 | | 20 |
| 1,1,2-Trichloroethane | 100 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 102 | | 102 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,2-Dichloroethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 85 | | 70-130 | 10 | | 20 |
| Bromodichloromethane | 100 | | 89 | | 70-130 | 12 | | 20 |
| trans-1,3-Dichloropropene | 74 | | **68** | Q | 70-130 | 8 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 75 | | 70-130 | 9 | | 20 |
| Bromoform | 94 | | 79 | | 70-130 | 17 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 96 | | 70-130 | 5 | | 20 |
| Chloromethane | 85 | | 86 | | 70-130 | 1 | | 20 |
| Vinyl chloride | 98 | | 98 | | 70-130 | 0 | | 20 |
| Chloroethane | 104 | | 103 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 103 | | 102 | | 70-130 | 1 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 99 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04 Batch: WG462491-1 WG462491-2 | | | | | | | | |
| Trichloroethene | 102 | | 100 | | 70-130 | 2 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 96 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 105 | | 104 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 74 | | 75 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 102 | | 97 | | 70-130 | 5 | | 20 |
| 1,3-Dichloropropane | 100 | | 101 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 86 | | 77 | | 70-130 | 11 | | 20 |
| o-Chlorotoluene | 96 | | 94 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 97 | | 95 | | 70-130 | 2 | | 20 |
| Hexachlorobutadiene | 91 | | 93 | | 70-130 | 2 | | 20 |
| 1,2,4-Trichlorobenzene | 90 | | 89 | | 70-130 | 1 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 103 | | 70-130 |
| Toluene-d8 | 97 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 |
| Dibromofluoromethane | 102 | | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 09 Batch: WG462491-4 WG462491-5 | | | | | | | | |
| Methylene chloride | 102 | | 94 | | 70-130 | 9 | | 20 |
| 1,1-Dichloroethane | 99 | | 92 | | 70-130 | 6 | | 20 |
| Chloroform | 102 | | 96 | | 70-130 | 7 | | 20 |
| Carbon tetrachloride | 98 | | 95 | | 70-130 | 5 | | 20 |
| 1,2-Dichloropropane | 92 | | 88 | | 70-130 | 9 | | 20 |
| Dibromochloromethane | 98 | | 94 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 88 | | 70-130 | 13 | | 20 |
| Tetrachloroethene | 99 | | 93 | | 70-130 | 9 | | 20 |
| Chlorobenzene | 89 | | 84 | | 70-130 | 11 | | 20 |
| 1,2-Dichloroethane | 108 | | 102 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 98 | | 94 | | 70-130 | 0 | | 20 |
| Bromodichloromethane | 102 | | 94 | | 70-130 | 6 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 71 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 75 | | 70-130 | 9 | | 20 |
| Bromoform | 102 | | 93 | | 70-130 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 92 | | 70-130 | 9 | | 20 |
| Chloromethane | 87 | | 82 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 100 | | 97 | | 70-130 | 1 | | 20 |
| Chloroethane | 103 | | 98 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethene | 102 | | 100 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 95 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 09 Batch: WG462491-4 WG462491-5 | | | | | | | | |
| Trichloroethene | 103 | | 94 | | 70-130 | 8 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 89 | | 70-130 | 12 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 87 | | 70-130 | 13 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 87 | | 70-130 | 14 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 97 | | 70-130 | 8 | | 20 |
| Dichlorodifluoromethane | 79 | | 75 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 98 | | 91 | | 70-130 | 11 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 11 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 84 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 89 | | 84 | | 70-130 | 13 | | 20 |
| p-Chlorotoluene | 91 | | 86 | | 70-130 | 12 | | 20 |
| Hexachlorobutadiene | 91 | | 90 | | 70-130 | 1 | | 20 |
| 1,2,4-Trichlorobenzene | 87 | | 81 | | 70-130 | 11 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 104 | | 70-130 |
| Toluene-d8 | 97 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-06,10,12-13 Batch: WG462495-1 WG462495-2 | | | | | | | | |
| Methylene chloride | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 93 | | 91 | | 70-130 | 2 | | 20 |
| Chloroform | 92 | | 91 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 99 | | 97 | | 70-130 | 2 | | 20 |
| 1,2-Dichloropropane | 91 | | 90 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 106 | | 106 | | 70-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 92 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 119 | | 111 | | 70-130 | 7 | | 20 |
| Chlorobenzene | 92 | | 87 | | 70-130 | 6 | | 20 |
| Trichlorofluoromethane | 84 | | 83 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 99 | | 94 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 90 | | 86 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 97 | | 93 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 91 | | 90 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 95 | | 91 | | 70-130 | 4 | | 20 |
| Bromoform | 101 | | 105 | | 70-130 | 4 | | 20 |
| 1,1,2,2-Tetrachloroethane | 81 | | 81 | | 70-130 | 0 | | 20 |
| Benzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Toluene | 96 | | 91 | | 70-130 | 5 | | 20 |
| Ethylbenzene | 94 | | 89 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-06,10,12-13 Batch: WG462495-1 WG462495-2 | | | | | | | | |
| Chloromethane | 85 | | 85 | | 70-130 | 0 | | 20 |
| Bromomethane | **57** | Q | **58** | Q | 70-130 | 2 | | 20 |
| Vinyl chloride | 96 | | 96 | | 70-130 | 0 | | 20 |
| Chloroethane | 71 | | 70 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 89 | | 87 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 98 | | 93 | | 70-130 | 5 | | 20 |
| Trichloroethene | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 90 | | 90 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 87 | | 83 | | 70-130 | 5 | | 20 |
| p/m-Xylene | 95 | | 93 | | 70-130 | 2 | | 20 |
| o-Xylene | 92 | | 89 | | 70-130 | 3 | | 20 |
| cis-1,2-Dichloroethene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Dibromomethane | 100 | | 96 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 86 | | 86 | | 70-130 | 0 | | 20 |
| Styrene | 90 | | 89 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 95 | | 96 | | 70-130 | 1 | | 20 |
| Acetone | 81 | | 72 | | 70-130 | 12 | | 20 |
| Carbon disulfide | **63** | Q | **62** | Q | 70-130 | 2 | | 20 |
| 2-Butanone | 84 | | 82 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-06,10,12-13 Batch: WG462495-1 WG462495-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 81 | | 77 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 81 | | 81 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 116 | | 112 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 81 | | 76 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 98 | | 93 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 93 | | 90 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 103 | | 100 | | 70-130 | 3 | | 20 |
| Bromobenzene | 96 | | 99 | | 70-130 | 3 | | 20 |
| n-Butylbenzene | 76 | | 76 | | 70-130 | 0 | | 20 |
| sec-Butylbenzene | 77 | | 78 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 82 | | 83 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 82 | | 82 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 82 | | 82 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 92 | | 70-130 | 6 | | 20 |
| Hexachlorobutadiene | 96 | | 103 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 89 | | 85 | | 70-130 | 5 | | 20 |
| p-Isopropyltoluene | 84 | | 84 | | 70-130 | 0 | | 20 |
| Naphthalene | 103 | | 104 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 80 | | 80 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 103 | | 105 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 05-06,10,12-13 Batch: WG462495-1 WG462495-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 108 | | 106 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 84 | | 81 | | 70-130 | 4 | | 20 |
| 1,2,4-Trimethylbenzene | 84 | | 86 | | 70-130 | 2 | | 20 |
| Ethyl ether | 86 | | 87 | | 70-130 | 1 | | 20 |
| Isopropyl Ether | 90 | | 87 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 88 | | 86 | | 70-130 | 2 | | 20 |
| Tertiary-Amyl Methyl Ether | 91 | | 88 | | 70-130 | 3 | | 20 |
| 1,4-Dioxane | 83 | | 79 | | 70-130 | 5 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 93 | | 70-130 |
| Toluene-d8 | 100 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 87 | | 92 | | 70-130 |
| Dibromofluoromethane | 105 | | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 07,11 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| Methylene chloride | 102 | | 101 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| Chloroform | 100 | | 101 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 86 | | 95 | | 70-130 | 10 | | 20 |
| 1,2-Dichloropropane | 91 | | 91 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 87 | | 87 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 120 | | 121 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 106 | | 104 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 95 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 95 | | 99 | | 70-130 | 4 | | 20 |
| trans-1,3-Dichloropropene | 71 | | 73 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 77 | | 79 | | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 97 | | 97 | | 70-130 | 0 | | 20 |
| Bromoform | 88 | | 96 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 95 | | 95 | | 70-130 | 0 | | 20 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Toluene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 88 | | 89 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 07,11 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| Chloromethane | 87 | | 86 | | 70-130 | 1 | | 20 |
| Bromomethane | 94 | | 86 | | 70-130 | 9 | | 20 |
| Vinyl chloride | 99 | | 96 | | 70-130 | 3 | | 20 |
| Chloroethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Trichloroethene | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 90 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 92 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 97 | | 94 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 88 | | 89 | | 70-130 | 1 | | 20 |
| o-Xylene | 85 | | 86 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 102 | | 70-130 | 0 | | 20 |
| Dibromomethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 93 | | 97 | | 70-130 | 4 | | 20 |
| Styrene | 89 | | 89 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 76 | | 74 | | 70-130 | 3 | | 20 |
| Acetone | 92 | | 88 | | 70-130 | 4 | | 20 |
| Carbon disulfide | **66** | Q | **68** | Q | 70-130 | 3 | | 20 |
| 2-Butanone | 83 | | 82 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 07,11 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 76 | | 78 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 74 | | 70 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 107 | | 106 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 88 | | 91 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 82 | | 86 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 97 | | 93 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 80 | | 85 | | 70-130 | 6 | | 20 |
| Bromobenzene | 94 | | 98 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 77 | | 80 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 80 | | 81 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 82 | | 82 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 85 | | 88 | | 70-130 | 3 | | 20 |
| p-Chlorotoluene | 87 | | 89 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 80 | | 82 | | 70-130 | 2 | | 20 |
| Hexachlorobutadiene | 88 | | 89 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 84 | | 84 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 83 | | 85 | | 70-130 | 2 | | 20 |
| Naphthalene | 73 | | 77 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 84 | | 85 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 81 | | 84 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 07,11 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 82 | | 84 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 81 | | 83 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl ether | 110 | | 108 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 92 | | 91 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 87 | | 84 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 104 | | 101 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 102 | | 70-130 |
| Toluene-d8 | 97 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 |
| Dibromofluoromethane | 104 | | 105 | | 70-130 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04,09 QC Batch ID: WG462491-7 WG462491-8 QC Sample: L1104476-04 Client ID: MW-46M-20110405-01 | | | | | | | | | | | | |
| Methylene chloride | ND | 10 | 10 | 101 | | 10 | 105 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethane | ND | 10 | 10 | 101 | | 10 | 104 | | 70-130 | 0 | | 20 |
| Chloroform | ND | 10 | 11 | 106 | | 11 | 109 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | ND | 10 | 10 | 104 | | 11 | 110 | | 70-130 | 10 | | 20 |
| 1,2-Dichloropropane | ND | 10 | 9.1 | 91 | | 9.5 | 95 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | ND | 10 | 9.8 | 98 | | 11 | 108 | | 70-130 | 12 | | 20 |
| 1,1,2-Trichloroethane | ND | 10 | 9.4 | 94 | | 9.9 | 99 | | 70-130 | 5 | | 20 |
| Tetrachloroethene | ND | 10 | 11 | 107 | | 11 | 108 | | 70-130 | 0 | | 20 |
| Chlorobenzene | ND | 10 | 8.9 | 89 | | 9.4 | 94 | | 70-130 | 5 | | 20 |
| 1,2-Dichloroethane | ND | 10 | 10 | 105 | | 11 | 110 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | ND | 10 | 11 | 110 | | 11 | 114 | | 70-130 | 0 | | 20 |
| Bromodichloromethane | ND | 10 | 10 | 100 | | 11 | 107 | | 70-130 | 10 | | 20 |
| trans-1,3-Dichloropropene | ND | 10 | 7.2 | 72 | | 7.8 | 78 | | 70-130 | 8 | | 20 |
| cis-1,3-Dichloropropene | ND | 10 | 7.7 | 77 | | 8.3 | 83 | | 70-130 | 8 | | 20 |
| Bromoform | ND | 10 | 10 | 104 | | 11 | 111 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | ND | 10 | 10 | 105 | | 11 | 107 | | 70-130 | 10 | | 20 |
| Chloromethane | ND | 10 | 8.6 | 86 | | 9.0 | 91 | | 70-130 | 5 | | 20 |
| Vinyl chloride | ND | 10 | 11 | 109 | | 11 | 112 | | 70-130 | 0 | | 20 |
| Chloroethane | ND | 10 | 11 | 109 | | 11 | 113 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | ND | 10 | 12 | 117 | | 12 | 121 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | ND | 10 | 10 | 104 | | 11 | 107 | | 70-130 | 10 | | 20 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104476
**Report Date:** 04/12/11

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 04,09 QC Batch ID: WG462491-7 WG462491-8 QC Sample: L1104476-04 Client ID: MW-46M-20110405-01 | | | | | | | | | | | | |
| Trichloroethene | 1.0 | 10 | 11 | 102 | | 12 | 107 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | ND | 10 | 9.3 | 93 | | 9.8 | 98 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | ND | 10 | 9.0 | 90 | | 9.6 | 96 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | ND | 10 | 9.1 | 91 | | 9.6 | 96 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | ND | 10 | 11 | 107 | | 11 | 109 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | ND | 10 | 8.1 | 82 | | 8.3 | 83 | | 70-130 | 2 | | 20 |
| 1,2-Dibromoethane | ND | 10 | 9.2 | 92 | | 10 | 103 | | 70-130 | 8 | | 20 |
| 1,3-Dichloropropane | ND | 10 | 9.4 | 94 | | 10 | 100 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | ND | 10 | 8.9 | 89 | | 9.6 | 96 | | 70-130 | 8 | | 20 |
| o-Chlorotoluene | ND | 10 | 9.0 | 90 | | 9.5 | 95 | | 70-130 | 5 | | 20 |
| p-Chlorotoluene | ND | 10 | 9.0 | 90 | | 9.5 | 95 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | ND | 10 | 8.7 | 87 | | 9.4 | 94 | | 70-130 | 8 | | 20 |
| 1,2,4-Trichlorobenzene | ND | 10 | 7.7 | 77 | | 8.0 | 80 | | 70-130 | 4 | | 20 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 104 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 99 | | 70-130 |
| Dibromofluoromethane | 106 | | 104 | | 70-130 |
| Toluene-d8 | 99 | | 98 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104476
**Report Date:** 04/12/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104476-01A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-01B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-02A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-02B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-03A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-03B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-04A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-04B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-04C | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-04D | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-04E | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-04F | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-05A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-05B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-06A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-06B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-07A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-07B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-08A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-09A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-09B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-10A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-10B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-11A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-11B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-12A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-12B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104476
**Report Date:** 04/12/11

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104476-13A | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |
| L1104476-13B | Vial HCl preserved | A | N/A | 2 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104476 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/12/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104476 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/12/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104476
**Project Number:** 0131386.01 **Report Date:** 04/12/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:04121113:43

# CHAIN OF CUSTODY

PAGE 1 OF 2

E

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/5/11

ALPHA Job #: L1104476

## Client Information

Client: ERM

Address: 399 Boylston Street 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flattery@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/12/11 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL

☑ ADEx ☑ Add'l Deliverables

## Billing Information

☑ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP Criteria GW-1

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8011C x 8260B) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 04476. 1 | MW-202M-20110405-01 | 4/5/11 | 1045 | GW | EW | 2 | 2 | | 4 |
| 2 | MW-40-20110405-01 | | 0950 | | SMC | 2 | | | 2 |
| 3 | MW-45B-20110405-01 | | 1345 | | SMC | 2 | | | 2 |
| 4 | MW-46M-20110405-01 | | 0935 | | SMC | 2 | 2 | | 4 |
| 5 | MW-47M-20110405-01 | | 1525 | | SMC | 2 | | | 2 |
| 4 | MW-46M-20110405-01-MS | | 0935 | | SMC | 2 | | | 2 |
| 4 | MW-46M-20110405-01-MSD | | 0935 | | SMC | 2 | | | 2 |
| 6 | MW-115-20110405-01 | | 1235 | | SMC | 2 | | | 2 |
| 7 | DUP-004-20110405-01 | | 1111 | | SMC | 2 | | | 2 |
| 8 | TB-002-20110405-01 | 3/28/11 | 0654 | — | KR | 1 | | | 1 |

| | | |
|---|---|---|
| Container Type | V | A |
| Preservative | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Emily Lin | 1545 4/5/11 | Nam Lee | 4/5/11 1546 |
| Nam Lee | 4/5/11 1630 | | 4/5/11 1630 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:04121113:43

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

E

Date Rec'd in Lab: 4/5/11

ALPHA Job #: L1104476

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386

Project Manager: Jason Flatteny

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/12/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP Criteria GW-1

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

*Filtration*
☒ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8021C x 8260B) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 04476 9 | MW-203D-20110405-01 | 4/5/11 | 1310 | GW | EW | 2 | | | 2 |
| 10 | MW-205M-20110405-01 | | 1045 | GW | LJM | 2 | | | 2 |
| 11 | MW-206M-20110405-01 | | 1245 | GW | LJM | 2 | | | 2 |
| 12 | MW-206D-20110405-01 | | 1435 | GW | LJM | 2 | | | 2 |
| 13 | MW-207M-20110405-01 | | 1540 | GW | LJM | 2 | | | 2 |

| | | |
|---|---|---|
| Container Type | V | A |
| Preservative | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Emily Nix | 4/5/11 1545 | Marmen Dubeau | 4/5/11 1545 |
| Marmen Dubeau | 4/5/11 1630 | | 4/5/11 1630 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104476

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 06:09

Lab File ID: 0412A01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .2657 | .1 | 24 | 20 | F |
| chloromethane | .35628 | .31039 | .1 | 13 | 20 | |
| vinyl chloride | .30181 | .2991 | .1 | 1 | 20 | |
| bromomethane | .22898 | .21492 | .1 | 6 | 20 | |
| chloroethane | .20794 | .21238 | .1 | -2 | 20 | |
| trichlorofluoromethane | .42568 | .51162 | .1 | -20 | 20 | F |
| ethyl ether | .12007 | .13177 | .05 | -10 | 20 | |
| acetone | 100 | 92.453 | .1 | 8 | 20 | |
| 1,1,-dichloroethene | .30271 | .30334 | .1 | 0 | 20 | |
| methylene chloride | .30372 | .31128 | .1 | -2 | 20 | |
| carbon disulfide | .91586 | .60772 | .1 | 34 | 20 | F |
| methyl tert butyl ether | .51963 | .50426 | .1 | 3 | 20 | |
| trans-1,2-dichloroethene | .34461 | .33317 | .1 | 3 | 20 | |
| Diisopropyl Ether | .81846 | .75445 | .05 | 8 | 20 | |
| 1,1-dichloroethane | .58497 | .55208 | .2 | 6 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .61103 | .05 | 13 | 20 | |
| 2-butanone | .05505 | .04565 | .1 | 17 | 20 | F |
| 2,2-dichloropropane | .38987 | .31865 | .05 | 18 | 20 | |
| cis-1,2-dichloroethene | .36598 | .37211 | .1 | -2 | 20 | |
| chloroform | .55517 | .55621 | .2 | 0 | 20 | |
| bromochloromethane | .13826 | .14808 | .05 | -7 | 20 | |
| tetrahydrofuran | 100 | 87.931 | .05 | 12 | 20 | |
| 1,1,1-trichloroethane | .50175 | .45002 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .47777 | .46309 | .05 | 3 | 20 | |
| carbontetrachloride | .40299 | .34572 | .1 | 14 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .5022 | .05 | 15 | 20 | |
| 1,2-dichloroethane | .29658 | .31413 | .1 | -6 | 20 | |
| benzene | 1.4222 | 1.3596 | .5 | 4 | 20 | |
| trichloroethene | .35492 | .35087 | .2 | 1 | 20 | |
| 1,2-dichloropropane | .31236 | .28452 | .1 | 9 | 20 | |
| bromodichloromethane | .34843 | .33109 | .2 | 5 | 20 | |
| 1,4-dioxane | .00121 | .00126 | .05 | -4 | 20 | F |
| dibromomethane | .12614 | .13325 | .05 | -6 | 20 | |
| 4-methyl-2-pentanone | .05144 | .03907 | .1 | 24 | 20 | F |
| cis-1,3-dichloropropene | .449 | .3472 | .2 | 23 | 20 | F |
| toluene | 1.1887 | 1.0735 | .4 | 10 | 20 | |
| trans-1,3-dichloropropene | .40626 | .28836 | .1 | 29 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .17405 | .1 | 7 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104476

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 06:09

Lab File ID: 0412A01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .10447 | .07694 | .1 | 26 | 20 | F |
| 1,3-dichloropropane | .41055 | .39677 | .05 | 3 | 20 | |
| tetrachloroethene | .54918 | .52585 | .2 | 4 | 20 | |
| chlorodibromomethane | .26275 | .23967 | .1 | 9 | 20 | |
| 1,2-dibromoethane | .21528 | .20211 | .1 | 6 | 20 | |
| chlorobenzene | 1.3469 | 1.1658 | .5 | 13 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .31358 | .05 | 20 | 20 | |
| ethyl benzene | 2.4104 | 2.1315 | .1 | 12 | 20 | |
| p/m xylene | .97612 | .86373 | .1 | 12 | 20 | |
| o xylene | .96041 | .81937 | .3 | 15 | 20 | |
| styrene | 1.5385 | 1.3628 | .31 | 11 | 20 | |
| isopropylbenzene | 2.4862 | 2.0872 | .1 | 16 | 20 | |
| bromoform | .23103 | .20209 | .1 | 13 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .36852 | .3 | 5 | 20 | |
| 1,2,3-trichloropropane | .302 | .28098 | .05 | 7 | 20 | |
| n-propylbenzene | 4.2789 | 3.5713 | .05 | 17 | 20 | |
| bromobenzene | .85391 | .80314 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.5313 | .05 | 19 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.4048 | .05 | 15 | 20 | |
| 4-chorotoluene | 2.6385 | 2.2934 | .05 | 13 | 20 | |
| tert-butylbenzene | 2.7401 | 2.2414 | .05 | 18 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.6622 | .05 | 15 | 20 | |
| sec-butylbenzene | 3.7202 | 2.9705 | .05 | 20 | 20 | F |
| p-isopropyltoluene | 3.1690 | 2.6223 | .05 | 17 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.5533 | .6 | 12 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.5839 | .5 | 11 | 20 | |
| n-butylbenzene | 3.0962 | 2.3922 | .05 | 23 | 20 | F |
| 1,2-dichlorobenzene | 1.4995 | 1.3606 | .4 | 9 | 20 | |
| 1,2-dibromo-3-chloropropane | .05659 | .04511 | .05 | 20 | 20 | F |
| 1,2,4-trichlorobenzene | .83258 | .68049 | .2 | 18 | 20 | |
| hexachlorobutadiene | .4051 | .35552 | .05 | 12 | 20 | |
| naphthalene | 1.3212 | .96782 | .05 | 27 | 20 | F |
| 1,2,3-trichlorobenzene | .61394 | .49726 | .05 | 19 | 20 | |
| dibromofluoromethane | .23183 | .24141 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .19112 | .20365 | .05 | -7 | 20 | |
| toluene-d8 | 1.2966 | 1.2621 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .84277 | .82064 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104563 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON-WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/11/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104563
**Report Date:** 04/11/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104563-01 | MW-403-20110406-01 | WAYLAND, MA | 04/06/11 13:40 |
| L1104563-02 | MW-269MA-20110406-01 | WAYLAND, MA | 04/06/11 14:35 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104563

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104563
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

1,4-Dioxane by 8270-SIM

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cynthia McQueen

Title: Technical Director/Representative Date: 04/11/11

# ORGANICS

# SEMIVOLATILES

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104563

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104563-01 | Date Collected: | 04/06/11 13:40 |
| Client ID: | MW-403-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/07/11 10:04 |
| Analytical Date: | 04/08/11 15:24 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 903 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 23 | | 15-110 |

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104563

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104563-02 | Date Collected: | 04/06/11 14:35 |
| Client ID: | MW-269MA-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/07/11 10:04 |
| Analytical Date: | 04/08/11 16:08 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 2450 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 26 | | 15-110 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104563
**Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 04/08/11 13:12
Analyst: JD

Extraction Method: EPA 3510C
Extraction Date: 04/07/11 10:04

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab for sample(s): 01-02 Batch: WG461947-1 | | | | | |
| 1,4-Dioxane | ND | | ng/l | 500 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 30 | | 15-110 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104563

**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG461947-2 WG461947-3 | | | | | | | | |
| 1,4-Dioxane | 110 | | 111 | | 40-140 | 1 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,4-Dioxane-d8 | 31 | | 32 | | 15-110 |

**Project Name:** RAYTHEON-WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104563
**Report Date:** 04/11/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104563-01A | Amber 1000ml unpreserved | A | 7 | 4.6 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104563-01B | Amber 1000ml unpreserved | A | 7 | 4.6 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104563-02A | Amber 1000ml unpreserved | A | 7 | 4.6 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104563-02B | Amber 1000ml unpreserved | A | 7 | 4.6 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1104563 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON-WAYLAND | **Lab Number:** | L1104563 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON-WAYLAND **Lab Number:** L1104563
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# Certificate/Approval Program Summary

Last revised March 23, 2011 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C.)

*Biological Tissue* (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C.)

*Air & Emissions* (EPA TO-15.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA, 245.1, 245.7, 1631E, 180.1, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081, 8082, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7470A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, SM2320B, EPA 200.8, SM2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 7470A, 9040B, 6020, 9010B, 9014 Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640C, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9040B, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 9014, 9040B, 120.1, SM2510B, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

*Air* (Organic Parameters: EPA TO-15)

**Washington State Department of Ecology** Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 2510B, EPA 120.1, 180.1, 1631E, 245.7.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 9040, 9060, 6020, 7470, 7471, 7474. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270, 8260.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015-DRO.

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

L1104563

# CHAIN OF CUSTODY

PAGE 1 OF 1

E

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/6/11

ALPHA Job #: L1104563

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatteny

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/20/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP | Criteria GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Samples presened w/ascorbic have hold shortened time

SAMPLE HANDLING

*Filtration*
☐ Done
☐ Not needed
☐ Lab to do

*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab use only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (8021 + 8260B) | VOCs (8021 + 8260B) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| ~~1556~~ 1 | MW-118-20110405-01 | 4/5/11 | 1615 | GW | EW | 2 | | | Shortened holding time | 2 |
| ~~2~~ | MW-208M-20110406-01 | 4/6/11 | 0855 | | EW | 2 | | | Shortened holding time | 2 |
| ~~3~~ | MW-201M-20110406-01 | | 1145 | | EW | | 2 | | | 2 |
| 4563.1 ~~4~~ | MW-403-20110406-01 | | 1340 | | EW | | 2 | 2 | | 4 |
| ~~5~~ | MW-105-20110406-01 | | 1400 | | LJM | | 2 | | | 2 |
| ~~6~~ | TB-003-20110406-01 | 3/28/11 | 0543 | — | KR | | 1 | | | 1 |
| ~~7~~ | MW-204M-20110406-01 | 4/6/11 | 1025 | GW | EW | | 2 | | | 2 |
| ~~8~~ | DUP-005-20110406-01 | 4/6/11 | 1414 | GW | EW | | 2 | | | 2 |
| 2 ~~9~~ ~~10~~ | MW-269Ma-20110406-01 | 4/6/11 | ~~1400~~ 1435 | GW | SMC | | 2 | 2 | | 4 |

| | | | |
|---|---|---|---|
| Container Type | V | V | A |
| Preservative | I | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 4/6/11 1530 | [illegible] | 4/6/11 1530 |
| [illegible] | 4/6/11 1610 | [illegible] | 4/6/11 1610 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:04111113:01

Serial_No:04111113:01 L1104563

# CHAIN OF CUSTODY

PAGE 1 OF 1

E

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/6/11 ALPHA Job #: L1104563

## Client Information

Client: ERM
Address: 399 Boylston St. 6th floor Boston, MA
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flatteny@erm.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0131386.01
Project Manager: Jason Flatteny
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 4/20/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client Info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Samples preserved w/ ascorbic have hold shortened time

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8260C) | SVOCs (8270C) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|
| 1550 | MW-118-20110405-01 | 4/5/11 | 1615 | GW | EW | 2 | | | Shortened holding time | 2 |
| | MW-208M-20110406-01 | 4/6/11 | 0855 | | EW | 2 | | | Shortened holding time | 2 |
| | MW-201M-20110406-01 | | 1145 | | EW | | 2 | | | 2 |
| 1560 | MW-403-20110406-01 | | 1340 | | EW | | 2 | 2 | | 4 |
| | MW-105-20110406-01 | | 1400 | | LJM | | 2 | | | 2 |
| | TB-003-20110406-01 | 3/28/11 | 0543 | — | KR | | 1 | | | 1 |
| | MW-204M-20110406-01 | 4/6/11 | 1025 | GW | EW | | 2 | | | 2 |
| | DUP-005-20110406-01 | 4/6/11 | 1414 | GW | EW | | 2 | | | 2 |
| | MW-269Ma-20110406-01 | 4/6/11 | ~~1400~~ 1435 | GW | SMC | | 2 | 2 | | 4 |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| Container Type | V | V | A |
| Preservative | I | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 4/6/11 1530 | [illegible] | 4/6/11 1530 |
| [illegible] | 4/6/11 1610 | [illegible] | 4/6/11 1610 |
| [illegible] | 4/6/11 2200 | Pat Collins | 4-7-11 705 |
| Pat Collins | 4-7-11 815 | [illegible] | 4/7/11 0815 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's terms and conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104558 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/25/11 |

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Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104558
**Report Date:** 04/25/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104558-01 | MW-118-20110405-01 | WAYLAND, MA | 04/05/11 16:15 |
| L1104558-02 | MW-208M-20110406-01 | WAYLAND, MA | 04/06/11 08:55 |
| L1104558-03 | MW-201M-20110406-01 | WAYLAND, MA | 04/06/11 11:45 |
| L1104558-04 | MW-403-20110406-01 | WAYLAND, MA | 04/06/11 13:40 |
| L1104558-05 | MW-105-20110406-01 | WAYLAND, MA | 04/06/11 14:00 |
| L1104558-06 | TB-003-20110406-01 | WAYLAND, MA | 04/05/11 00:00 |
| L1104558-07 | MW-204M-20110406-01 | WAYLAND, MA | 04/06/11 10:25 |
| L1104558-08 | DUP-005-20110406-01 | WAYLAND, MA | 04/06/11 14:14 |
| L1104558-09 | MW-269MA-20110406-01 | WAYLAND, MA | 04/06/11 14:35 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558
**Project Number:** 0131386.01 **Report Date:** 04/25/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

Report Submission

This report replaces the report issued April 13, 2011. At the client's request, the report has been amended to only include the results and chain of custody for L1104558-01 through -09.

MCP Related Narratives

Report Submission

The analysis of 1,4-Dioxane by method 8270-SIM isotope dilution is being performed at our Mansfield facility. The results will be issued under separate cover.

Volatile Organics

L1104558-01 and 02: The pH of the samples was greater than two; however, the samples were analyzed within the method required holding time.

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104558 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/25/11 |

**Case Narrative (continued)**

In reference to question H:

The WG462116-2 LCSD recovery, associated with L1104558-01 and -02, is below the acceptance criteria for Dichlorodifluoromethane (65%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG462692-1/-2 LCS/LCSD RPD, associated with L1104558-06, is above the acceptance criteria for Carbon tetrachloride (22%); however, the individual LCS/LCSD recoveries are within method limits.

The continuing calibration standards, associated with L1104558-01 through -09, are outside the acceptance criteria for several compounds; however, they are within overall method allowances. Copies of the continuing calibration standards are included as an addendum to this report.

In reference to question I:

L1104558-01 through -09 were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Simmons

Title: Technical Director/Representative

Date: 04/25/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-01 | Date Collected: | 04/05/11 16:15 |
| Client ID: | MW-118-20110405-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 13:03 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-01 | Date Collected: | 04/05/11 16:15 |
| Client ID: | MW-118-20110405-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-02 | Date Collected: | 04/06/11 08:55 |
| Client ID: | MW-208M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 13:35 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 4.4 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 1.3 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.4 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 46 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.6 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-02 | Date Collected: | 04/06/11 08:55 |
| Client ID: | MW-208M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-03 | Date Collected: | 04/06/11 11:45 |
| Client ID: | MW-201M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 10:20 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 3.1 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 44 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 41 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-03 | Date Collected: | 04/06/11 11:45 |
| Client ID: | MW-201M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-04 | Date Collected: | 04/06/11 13:40 |
| Client ID: | MW-403-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 10:51 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | 1.2 | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 30 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 1.7 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-04 | Date Collected: | 04/06/11 13:40 |
| Client ID: | MW-403-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 112 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-05 | Date Collected: | 04/06/11 14:00 |
| Client ID: | MW-105-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 11:23 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 7.6 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

Lab ID: L1104558-05 Date Collected: 04/06/11 14:00

Client ID: MW-105-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 110 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-06 | Date Collected: | 04/05/11 00:00 |
| Client ID: | TB-003-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 15:48 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

Lab ID: L1104558-06 Date Collected: 04/05/11 00:00

Client ID: TB-003-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-07 | Date Collected: | 04/06/11 10:25 |
| Client ID: | MW-204M-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/12/11 11:55 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.0 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | 28 | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 5.8 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 120 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

Lab ID: L1104558-07 Date Collected: 04/06/11 10:25

Client ID: MW-204M-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-08 | Date Collected: | 04/06/11 14:14 |
| Client ID: | DUP-005-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 16:37 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.9 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 2.9 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 43 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 40 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

Lab ID: L1104558-08 Date Collected: 04/06/11 14:14

Client ID: DUP-005-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104558-09 | Date Collected: | 04/06/11 14:35 |
| Client ID: | MW-269MA-20110406-01 | Date Received: | 04/06/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 17:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.1 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

## SAMPLE RESULTS

Lab ID: L1104558-09 Date Collected: 04/06/11 14:35

Client ID: MW-269MA-20110406-01 Date Received: 04/06/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG462116-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG462116-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG462116-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 08-09 Batch: WG462492-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 08-09 Batch: WG462492-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 08-09 Batch: WG462492-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-05,07 Batch: WG462540-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-05,07 Batch: WG462540-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 07:42
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03-05,07 Batch: WG462540-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Tentatively Identified Compounds | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 06 Batch: WG462692-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 06 Batch: WG462692-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104558

**Project Number:** 0131386.01 **Report Date:** 04/25/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/12/11 15:16
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 06 Batch: WG462692-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

Tentatively Identified Compounds

| | | |
|---|---|---|
| No Tentatively Identified Compounds | ND | ug/l |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| Methylene chloride | 103 | | 100 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 100 | | 96 | | 70-130 | 4 | | 20 |
| Chloroform | 104 | | 100 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 93 | | 85 | | 70-130 | 9 | | 20 |
| 1,2-Dichloropropane | 97 | | 93 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 95 | | 89 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Tetrachloroethene | 103 | | 99 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 120 | | 110 | | 70-130 | 9 | | 20 |
| 1,2-Dichloroethane | 105 | | 100 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 96 | | 90 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 72 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 77 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 100 | | 95 | | 70-130 | 5 | | 20 |
| Bromoform | 96 | | 87 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 99 | | 70-130 | 2 | | 20 |
| Benzene | 100 | | 96 | | 70-130 | 4 | | 20 |
| Toluene | 95 | | 92 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| Chloromethane | 81 | | 78 | | 70-130 | 4 | | 20 |
| Bromomethane | **68** | Q | **54** | Q | 70-130 | **23** | Q | 20 |
| Vinyl chloride | 97 | | 88 | | 70-130 | 10 | | 20 |
| Chloroethane | 102 | | 98 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 105 | | 97 | | 70-130 | 8 | | 20 |
| trans-1,2-Dichloroethene | 102 | | 96 | | 70-130 | 6 | | 20 |
| Trichloroethene | 102 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 94 | | 70-130 | 5 | | 20 |
| Methyl tert butyl ether | 95 | | 94 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 96 | | 93 | | 70-130 | 3 | | 20 |
| o-Xylene | 94 | | 92 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 107 | | 102 | | 70-130 | 5 | | 20 |
| Dibromomethane | 102 | | 100 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 100 | | 97 | | 70-130 | 3 | | 20 |
| Styrene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 73 | | **65** | Q | 70-130 | 12 | | 20 |
| Acetone | 98 | | 97 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 94 | | 95 | | 70-130 | 1 | | 20 |
| 2-Butanone | 87 | | 91 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 92 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 82 | | 87 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 109 | | 103 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | 95 | | 94 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 87 | | 82 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 81 | | 70-130 | 8 | | 20 |
| Bromobenzene | 105 | | 99 | | 70-130 | 6 | | 20 |
| n-Butylbenzene | 89 | | 86 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 93 | | 88 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 98 | | 93 | | 70-130 | 5 | | 20 |
| p-Chlorotoluene | 99 | | 95 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | 89 | | 80 | | 70-130 | 11 | | 20 |
| Hexachlorobutadiene | 91 | | 84 | | 70-130 | 8 | | 20 |
| Isopropylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 96 | | 92 | | 70-130 | 4 | | 20 |
| Naphthalene | 87 | | 84 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 87 | | 83 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 90 | | 86 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,2,4-Trimethylbenzene | 95 | | 90 | | 70-130 | 5 | | 20 |
| Ethyl ether | 106 | | 104 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 94 | | 95 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 88 | | 87 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 114 | | 116 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 103 | | 70-130 |
| Toluene-d8 | 98 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-09 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| Methylene chloride | 102 | | 94 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| Chloroform | 102 | | 96 | | 70-130 | 6 | | 20 |
| Carbon tetrachloride | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 92 | | 88 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 88 | | 70-130 | 8 | | 20 |
| Tetrachloroethene | 99 | | 93 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 89 | | 84 | | 70-130 | 6 | | 20 |
| Trichlorofluoromethane | 123 | | 118 | | 70-130 | 4 | | 20 |
| 1,2-Dichloroethane | 108 | | 102 | | 70-130 | 6 | | 20 |
| 1,1,1-Trichloroethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| Bromodichloromethane | 102 | | 94 | | 70-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 71 | | 70-130 | 7 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 75 | | 70-130 | 9 | | 20 |
| 1,1-Dichloropropene | 100 | | 94 | | 70-130 | 6 | | 20 |
| Bromoform | 102 | | 93 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Benzene | 98 | | 91 | | 70-130 | 7 | | 20 |
| Toluene | 91 | | 87 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 90 | | 85 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-09 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| Chloromethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Bromomethane | 80 | | 74 | | 70-130 | 8 | | 20 |
| Vinyl chloride | 100 | | 97 | | 70-130 | 3 | | 20 |
| Chloroethane | 103 | | 98 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethene | 102 | | 100 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 95 | | 70-130 | 6 | | 20 |
| Trichloroethene | 103 | | 94 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 89 | | 70-130 | 8 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 87 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 87 | | 70-130 | 7 | | 20 |
| Methyl tert butyl ether | 94 | | 88 | | 70-130 | 7 | | 20 |
| p/m-Xylene | 90 | | 85 | | 70-130 | 6 | | 20 |
| o-Xylene | 87 | | 83 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 97 | | 70-130 | 5 | | 20 |
| Dibromomethane | 108 | | 98 | | 70-130 | 10 | | 20 |
| 1,2,3-Trichloropropane | 100 | | 91 | | 70-130 | 9 | | 20 |
| Styrene | 91 | | 86 | | 70-130 | 6 | | 20 |
| Dichlorodifluoromethane | 79 | | 75 | | 70-130 | 5 | | 20 |
| Acetone | 95 | | 88 | | 70-130 | 8 | | 20 |
| Carbon disulfide | 76 | | 74 | | 70-130 | 3 | | 20 |
| 2-Butanone | 84 | | 78 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-09 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 84 | | 75 | | 70-130 | 11 | | 20 |
| 2-Hexanone | 76 | | 70 | | 70-130 | 8 | | 20 |
| Bromochloromethane | 110 | | 102 | | 70-130 | 8 | | 20 |
| Tetrahydrofuran | 87 | | 82 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 87 | | 84 | | 70-130 | 4 | | 20 |
| 1,2-Dibromoethane | 98 | | 91 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 84 | | 70-130 | 5 | | 20 |
| Bromobenzene | 100 | | 93 | | 70-130 | 7 | | 20 |
| n-Butylbenzene | 80 | | 76 | | 70-130 | 5 | | 20 |
| sec-Butylbenzene | 82 | | 77 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 84 | | 79 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 89 | | 84 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 91 | | 86 | | 70-130 | 6 | | 20 |
| 1,2-Dibromo-3-chloropropane | 90 | | 84 | | 70-130 | 7 | | 20 |
| Hexachlorobutadiene | 91 | | 90 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 85 | | 80 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 86 | | 82 | | 70-130 | 5 | | 20 |
| Naphthalene | 78 | | 71 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 86 | | 82 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 77 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104558

**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 08-09 Batch: WG462492-1 WG462492-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 87 | | 81 | | 70-130 | 7 | | 20 |
| 1,3,5-Trimethylbenzene | 84 | | 79 | | 70-130 | 6 | | 20 |
| 1,2,4-Trimethylbenzene | 87 | | 82 | | 70-130 | 6 | | 20 |
| Ethyl ether | 110 | | 100 | | 70-130 | 10 | | 20 |
| Isopropyl Ether | 93 | | 88 | | 70-130 | 6 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 81 | | 70-130 | 5 | | 20 |
| Tertiary-Amyl Methyl Ether | 86 | | 80 | | 70-130 | 7 | | 20 |
| 1,4-Dioxane | 102 | | 91 | | 70-130 | 11 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 104 | | 70-130 |
| Toluene-d8 | 97 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-05,07 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| Methylene chloride | 102 | | 101 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| Chloroform | 100 | | 101 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 86 | | 95 | | 70-130 | 10 | | 20 |
| 1,2-Dichloropropane | 91 | | 91 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 92 | | 92 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 87 | | 87 | | 70-130 | 0 | | 20 |
| Trichlorofluoromethane | 120 | | 121 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 106 | | 104 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 95 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 95 | | 99 | | 70-130 | 4 | | 20 |
| trans-1,3-Dichloropropene | 71 | | 73 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 77 | | 79 | | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 97 | | 97 | | 70-130 | 0 | | 20 |
| Bromoform | 88 | | 96 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 95 | | 95 | | 70-130 | 0 | | 20 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Toluene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Ethylbenzene | 88 | | 89 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-05,07 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| Chloromethane | 87 | | 86 | | 70-130 | 1 | | 20 |
| Bromomethane | 94 | | 86 | | 70-130 | 9 | | 20 |
| Vinyl chloride | 99 | | 96 | | 70-130 | 3 | | 20 |
| Chloroethane | 102 | | 102 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| trans-1,2-Dichloroethene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Trichloroethene | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 90 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 92 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 97 | | 94 | | 70-130 | 3 | | 20 |
| p/m-Xylene | 88 | | 89 | | 70-130 | 1 | | 20 |
| o-Xylene | 85 | | 86 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 102 | | 70-130 | 0 | | 20 |
| Dibromomethane | 106 | | 103 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 93 | | 97 | | 70-130 | 4 | | 20 |
| Styrene | 89 | | 89 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 76 | | 74 | | 70-130 | 3 | | 20 |
| Acetone | 92 | | 88 | | 70-130 | 4 | | 20 |
| Carbon disulfide | **66** | Q | **68** | Q | 70-130 | 3 | | 20 |
| 2-Butanone | 83 | | 82 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-05,07 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 76 | | 78 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 74 | | 70 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 107 | | 106 | | 70-130 | 1 | | 20 |
| Tetrahydrofuran | 88 | | 91 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 82 | | 86 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 97 | | 93 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 80 | | 85 | | 70-130 | 6 | | 20 |
| Bromobenzene | 94 | | 98 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 77 | | 80 | | 70-130 | 4 | | 20 |
| sec-Butylbenzene | 80 | | 81 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 82 | | 82 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 85 | | 88 | | 70-130 | 3 | | 20 |
| p-Chlorotoluene | 87 | | 89 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 80 | | 82 | | 70-130 | 2 | | 20 |
| Hexachlorobutadiene | 88 | | 89 | | 70-130 | 1 | | 20 |
| Isopropylbenzene | 84 | | 84 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 83 | | 85 | | 70-130 | 2 | | 20 |
| Naphthalene | 73 | | 77 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 84 | | 85 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 81 | | 84 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03-05,07 Batch: WG462540-1 WG462540-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 82 | | 84 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 81 | | 83 | | 70-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Ethyl ether | 110 | | 108 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 92 | | 91 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 87 | | 84 | | 70-130 | 4 | | 20 |
| Tertiary-Amyl Methyl Ether | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 104 | | 101 | | 70-130 | 3 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 102 | | 70-130 |
| Toluene-d8 | 97 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 98 | | 70-130 |
| Dibromofluoromethane | 104 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| Methylene chloride | 106 | | 110 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethane | 97 | | 104 | | 70-130 | 7 | | 20 |
| Chloroform | 102 | | 111 | | 70-130 | 8 | | 20 |
| Carbon tetrachloride | 81 | | 101 | | 70-130 | **22** | Q | 20 |
| 1,2-Dichloropropane | 93 | | 100 | | 70-130 | 7 | | 20 |
| Dibromochloromethane | 95 | | 99 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 110 | | 98 | | 70-130 | 12 | | 20 |
| Tetrachloroethene | 106 | | 102 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | **137** | Q | **144** | Q | 70-130 | 5 | | 20 |
| 1,2-Dichloroethane | 112 | | 117 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 92 | | 104 | | 70-130 | 12 | | 20 |
| Bromodichloromethane | 93 | | 106 | | 70-130 | 13 | | 20 |
| trans-1,3-Dichloropropene | 73 | | 74 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 76 | | 82 | | 70-130 | 8 | | 20 |
| 1,1-Dichloropropene | 104 | | 110 | | 70-130 | 6 | | 20 |
| Bromoform | 89 | | 96 | | 70-130 | 8 | | 20 |
| 1,1,2,2-Tetrachloroethane | 104 | | 99 | | 70-130 | 5 | | 20 |
| Benzene | 101 | | 105 | | 70-130 | 4 | | 20 |
| Toluene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 94 | | 91 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| Chloromethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| Bromomethane | 70 | | 90 | | 70-130 | **25** | Q | 20 |
| Vinyl chloride | 110 | | 116 | | 70-130 | 5 | | 20 |
| Chloroethane | 110 | | 115 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 108 | | 115 | | 70-130 | 6 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 108 | | 70-130 | 7 | | 20 |
| Trichloroethene | 104 | | 110 | | 70-130 | 6 | | 20 |
| 1,2-Dichlorobenzene | 101 | | 100 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 97 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 95 | | 94 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 95 | | 92 | | 70-130 | 3 | | 20 |
| o-Xylene | 89 | | 87 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 104 | | 113 | | 70-130 | 8 | | 20 |
| Dibromomethane | 110 | | 115 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 110 | | 102 | | 70-130 | 8 | | 20 |
| Styrene | 94 | | 92 | | 70-130 | 2 | | 20 |
| Dichlorodifluoromethane | 97 | | 102 | | 70-130 | 5 | | 20 |
| Acetone | 102 | | 100 | | 70-130 | 2 | | 20 |
| Carbon disulfide | 84 | | 92 | | 70-130 | 9 | | 20 |
| 2-Butanone | 92 | | 91 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 85 | | 70-130 | 5 | | 20 |
| 2-Hexanone | 89 | | 82 | | 70-130 | 8 | | 20 |
| Bromochloromethane | 113 | | 120 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | 98 | | 95 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 77 | | 90 | | 70-130 | 16 | | 20 |
| 1,2-Dibromoethane | 107 | | 101 | | 70-130 | 6 | | 20 |
| 1,3-Dichloropropane | 109 | | 102 | | 70-130 | 7 | | 20 |
| 1,1,1,2-Tetrachloroethane | 82 | | 88 | | 70-130 | 7 | | 20 |
| Bromobenzene | 104 | | 105 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 80 | | 81 | | 70-130 | 1 | | 20 |
| sec-Butylbenzene | 80 | | 80 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 82 | | 84 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 92 | | 92 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 82 | | 86 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | 90 | | 97 | | 70-130 | 7 | | 20 |
| Isopropylbenzene | 86 | | 84 | | 70-130 | 2 | | 20 |
| p-Isopropyltoluene | 85 | | 87 | | 70-130 | 2 | | 20 |
| Naphthalene | 81 | | 79 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 85 | | 86 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichlorobenzene | 87 | | 86 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104558
**Report Date:** 04/25/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 06 Batch: WG462692-1 WG462692-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 86 | | 86 | | 70-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 90 | | 91 | | 70-130 | 1 | | 20 |
| Ethyl ether | 109 | | 109 | | 70-130 | 0 | | 20 |
| Isopropyl Ether | 90 | | 93 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 85 | | 86 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 85 | | 85 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 117 | | 115 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 102 | | 70-130 |
| Toluene-d8 | 97 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 96 | | 70-130 |
| Dibromofluoromethane | 97 | | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104558
**Report Date:** 04/25/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104558-01A | Clear Vial Ascorbic Acid preserv | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-01B | Clear Vial Ascorbic Acid preserv | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-02A | Clear Vial Ascorbic Acid preserv | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-02B | Clear Vial Ascorbic Acid preserv | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-03A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-03B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-04A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-04B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-05A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-05B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-06A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-07A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-07B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-08A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-08B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-09A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-09B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | MCP-8260-10(14) |
| L1104558-10A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-10B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-11A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-11B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-12A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-12B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-13A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-13B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-14A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-14B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |

*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104558
**Report Date:** 04/25/11

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104558-15A | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |
| L1104558-15B | Vial HCl preserved | A | N/A | 4.6 | Y | Absent | - |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104558 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/25/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104558 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/25/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:04251117:19

# CHAIN OF CUSTODY

PAGE 1 OF 1

E

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/6/11

ALPHA Job #: L1104558

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatteny

ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/13/11 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL

☑ ADEx ☑ Add'l Deliverables

## Billing Information

☑ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP | Criteria GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Samples preserved w/ ascorbic have hold shortened time

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8021C x 8260B) | CVOCs (8021C x 8260B) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| 4558.1 | MW-118-20110405-01 | 4/5/11 | 1615 | GW | EW | 2 | | | Shortened holding time | 2 |
| 2 | MW-208M-20110406-01 | 4/6/11 | 0855 | | EW | 2 | | | Shortened holding time | 2 |
| 3 | MW-201M-20110406-01 | | 1145 | | EW | | 2 | | | 2 |
| 4 | MW-403-20110406-01 | | 1340 | | EW | | 2 | 2 | | 4 |
| 5 | MW-105-20110406-01 | | 1400 | | LJM | | 2 | | | 2 |
| 6 7 | TB-003-20110406-01 | 3/28/11 | 0543 | — | KR | | 1 | | | 1 |
| 7 8 | MW-204M-20110406-01 | 4/6/11 | 1025 | GW | EW | | 2 | | | 2 |
| 8 9 | DUP-005-20110406-01 | 4/6/11 | 1414 | GW | EW | | 2 | | | 2 |
| 9 10 | MW-269Ma-20110406-01 | 4/6/11 | ~~1400~~ 1435 | GW | SMC | | 2 | 2 | | 4 |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| Container Type | V | V | A |
| Preservative | I | B | A |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 4/6/11 1530 | [illegible] | 4/6/11 1530 |
| [illegible] | 4/6/11 1610 | [illegible] | 4/6/11 1610 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 06:09

Lab File ID: 0412A01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .2657 | .1 | 24 | 20 | F |
| chloromethane | .35628 | .31039 | .1 | 13 | 20 | |
| vinyl chloride | .30181 | .2991 | .1 | 1 | 20 | |
| bromomethane | .22898 | .21492 | .1 | 6 | 20 | |
| chloroethane | .20794 | .21238 | .1 | -2 | 20 | |
| trichlorofluoromethane | .42568 | .51162 | .1 | -20 | 20 | F |
| ethyl ether | .12007 | .13177 | .05 | -10 | 20 | |
| acetone | 100 | 92.453 | .1 | 8 | 20 | |
| 1,1,-dichloroethene | .30271 | .30334 | .1 | 0 | 20 | |
| methylene chloride | .30372 | .31128 | .1 | -2 | 20 | |
| carbon disulfide | .91586 | .60772 | .1 | 34 | 20 | F |
| methyl tert butyl ether | .51963 | .50426 | .1 | 3 | 20 | |
| trans-1,2-dichloroethene | .34461 | .33317 | .1 | 3 | 20 | |
| Diisopropyl Ether | .81846 | .75445 | .05 | 8 | 20 | |
| 1,1-dichloroethane | .58497 | .55208 | .2 | 6 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .61103 | .05 | 13 | 20 | |
| 2-butanone | .05505 | .04565 | .1 | 17 | 20 | F |
| 2,2-dichloropropane | .38987 | .31865 | .05 | 18 | 20 | |
| cis-1,2-dichloroethene | .36598 | .37211 | .1 | -2 | 20 | |
| chloroform | .55517 | .55621 | .2 | 0 | 20 | |
| bromochloromethane | .13826 | .14808 | .05 | -7 | 20 | |
| tetrahydrofuran | 100 | 87.931 | .05 | 12 | 20 | |
| 1,1,1-trichloroethane | .50175 | .45002 | .1 | 10 | 20 | |
| 1,1-dichloropropene | .47777 | .46309 | .05 | 3 | 20 | |
| carbontetrachloride | .40299 | .34572 | .1 | 14 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .5022 | .05 | 15 | 20 | |
| 1,2-dichloroethane | .29658 | .31413 | .1 | -6 | 20 | |
| benzene | 1.4222 | 1.3596 | .5 | 4 | 20 | |
| trichloroethene | .35492 | .35087 | .2 | 1 | 20 | |
| 1,2-dichloropropane | .31236 | .28452 | .1 | 9 | 20 | |
| bromodichloromethane | .34843 | .33109 | .2 | 5 | 20 | |
| 1,4-dioxane | .00121 | .00126 | .05 | -4 | 20 | F |
| dibromomethane | .12614 | .13325 | .05 | -6 | 20 | |
| 4-methyl-2-pentanone | .05144 | .03907 | .1 | 24 | 20 | F |
| cis-1,3-dichloropropene | .449 | .3472 | .2 | 23 | 20 | F |
| toluene | 1.1887 | 1.0735 | .4 | 10 | 20 | |
| trans-1,3-dichloropropene | .40626 | .28836 | .1 | 29 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .17405 | .1 | 7 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 12-APR-2011  Time: 06:09

Lab File ID: 0412A01  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .10447 | .07694 | .1 | 26 | 20 | F |
| 1,3-dichloropropane | .41055 | .39677 | .05 | 3 | 20 | |
| tetrachloroethene | .54918 | .52585 | .2 | 4 | 20 | |
| chlorodibromomethane | .26275 | .23967 | .1 | 9 | 20 | |
| 1,2-dibromoethane | .21528 | .20211 | .1 | 6 | 20 | |
| chlorobenzene | 1.3469 | 1.1658 | .5 | 13 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .31358 | .05 | 20 | 20 | |
| ethyl benzene | 2.4104 | 2.1315 | .1 | 12 | 20 | |
| p/m xylene | .97612 | .86373 | .1 | 12 | 20 | |
| o xylene | .96041 | .81937 | .3 | 15 | 20 | |
| styrene | 1.5385 | 1.3628 | .31 | 11 | 20 | |
| isopropylbenzene | 2.4862 | 2.0872 | .1 | 16 | 20 | |
| bromoform | .23103 | .20209 | .1 | 13 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .36852 | .3 | 5 | 20 | |
| 1,2,3-trichloropropane | .302 | .28098 | .05 | 7 | 20 | |
| n-propylbenzene | 4.2789 | 3.5713 | .05 | 17 | 20 | |
| bromobenzene | .85391 | .80314 | .05 | 6 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.5313 | .05 | 19 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.4048 | .05 | 15 | 20 | |
| 4-chorotoluene | 2.6385 | 2.2934 | .05 | 13 | 20 | |
| tert-butylbenzene | 2.7401 | 2.2414 | .05 | 18 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.6622 | .05 | 15 | 20 | |
| sec-butylbenzene | 3.7202 | 2.9705 | .05 | 20 | 20 | F |
| p-isopropyltoluene | 3.1690 | 2.6223 | .05 | 17 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.5533 | .6 | 12 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.5839 | .5 | 11 | 20 | |
| n-butylbenzene | 3.0962 | 2.3922 | .05 | 23 | 20 | F |
| 1,2-dichlorobenzene | 1.4995 | 1.3606 | .4 | 9 | 20 | |
| 1,2-dibromo-3-chloropropane | .05659 | .04511 | .05 | 20 | 20 | F |
| 1,2,4-trichlorobenzene | .83258 | .68049 | .2 | 18 | 20 | |
| hexachlorobutadiene | .4051 | .35552 | .05 | 12 | 20 | |
| naphthalene | 1.3212 | .96782 | .05 | 27 | 20 | F |
| 1,2,3-trichlorobenzene | .61394 | .49726 | .05 | 19 | 20 | |
| dibromofluoromethane | .23183 | .24141 | .05 | -4 | 20 | |
| 1,2-dichloroethane-d4 | .19112 | .20365 | .05 | -7 | 20 | |
| toluene-d8 | 1.2966 | 1.2621 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .84277 | .82064 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 11-APR-2011  Time: 08:12

Lab File ID: 0411A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .275 | .1 | 21 | 20 | F |
| chloromethane | .35628 | .31076 | .1 | 13 | 20 | |
| vinyl chloride | .30181 | .30279 | .1 | 0 | 20 | |
| bromomethane | .22898 | .18212 | .1 | 20 | 20 | F |
| chloroethane | .20794 | .21419 | .1 | -3 | 20 | |
| trichlorofluoromethane | .42568 | .52415 | .1 | -23 | 20 | F |
| ethyl ether | .12007 | .13189 | .05 | -10 | 20 | |
| acetone | 100 | 95.270 | .1 | 5 | 20 | |
| 1,1,-dichloroethene | .30271 | .30862 | .1 | -2 | 20 | |
| methylene chloride | .30372 | .31009 | .1 | -2 | 20 | |
| carbon disulfide | .91586 | .69332 | .1 | 24 | 20 | F |
| methyl tert butyl ether | .51963 | .48582 | .1 | 7 | 20 | |
| trans-1,2-dichloroethene | .34461 | .34703 | .1 | -1 | 20 | |
| Diisopropyl Ether | .81846 | .76106 | .05 | 7 | 20 | |
| 1,1-dichloroethane | .58497 | .57703 | .2 | 1 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .59541 | .05 | 15 | 20 | |
| 2-butanone | .05505 | .04609 | .1 | 16 | 20 | F |
| 2,2-dichloropropane | .38987 | .33987 | .05 | 13 | 20 | |
| cis-1,2-dichloroethene | .36598 | .37389 | .1 | -2 | 20 | |
| chloroform | .55517 | .56641 | .2 | -2 | 20 | |
| bromochloromethane | .13826 | .15165 | .05 | -10 | 20 | |
| tetrahydrofuran | 100 | 87.174 | .05 | 13 | 20 | |
| 1,1,1-trichloroethane | .50175 | .49407 | .1 | 2 | 20 | |
| 1,1-dichloropropene | .47777 | .47861 | .05 | 0 | 20 | |
| carbontetrachloride | .40299 | .39681 | .1 | 2 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .50762 | .05 | 14 | 20 | |
| 1,2-dichloroethane | .29658 | .32152 | .1 | -8 | 20 | |
| benzene | 1.4222 | 1.3961 | .5 | 2 | 20 | |
| trichloroethene | .35492 | .36727 | .2 | -3 | 20 | |
| 1,2-dichloropropane | .31236 | .28766 | .1 | 8 | 20 | |
| bromodichloromethane | .34843 | .35418 | .2 | -2 | 20 | |
| 1,4-dioxane | .00121 | .00123 | .05 | -2 | 20 | F |
| dibromomethane | .12614 | .13686 | .05 | -9 | 20 | |
| 4-methyl-2-pentanone | .05144 | .04317 | .1 | 16 | 20 | F |
| cis-1,3-dichloropropene | .449 | .36846 | .2 | 18 | 20 | |
| toluene | 1.1887 | 1.0795 | .4 | 9 | 20 | |
| trans-1,3-dichloropropene | .40626 | .30726 | .1 | 24 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .17787 | .1 | 5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 11-APR-2011  Time: 08:12

Lab File ID: 0411A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| 2-hexanone | .10447 | .07926 | .1 | 24 | 20 | F |
| 1,3-dichloropropane | .41055 | .40054 | .05 | 2 | 20 | |
| tetrachloroethene | .54918 | .54298 | .2 | 1 | 20 | |
| chlorodibromomethane | .26275 | .25783 | .1 | 2 | 20 | |
| 1,2-dibromoethane | .21528 | .20993 | .1 | 2 | 20 | |
| chlorobenzene | 1.3469 | 1.1966 | .5 | 11 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .34246 | .05 | 13 | 20 | |
| ethyl benzene | 2.4104 | 2.1726 | .1 | 10 | 20 | |
| p/m xylene | .97612 | .88113 | .1 | 10 | 20 | |
| o xylene | .96041 | .83784 | .3 | 13 | 20 | |
| styrene | 1.5385 | 1.3991 | .31 | 9 | 20 | |
| isopropylbenzene | 2.4862 | 2.1069 | .1 | 15 | 20 | |
| bromoform | .23103 | .23456 | .1 | -2 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .38107 | .3 | 2 | 20 | |
| 1,2,3-trichloropropane | .302 | .3032 | .05 | 0 | 20 | |
| n-propylbenzene | 4.2789 | 3.6975 | .05 | 14 | 20 | |
| bromobenzene | .85391 | .85734 | .05 | 0 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.6157 | .05 | 16 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.5152 | .05 | 11 | 20 | |
| 4-chorotoluene | 2.6385 | 2.4075 | .05 | 9 | 20 | |
| tert-butylbenzene | 2.7401 | 2.2895 | .05 | 16 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.7306 | .05 | 13 | 20 | |
| sec-butylbenzene | 3.7202 | 3.0308 | .05 | 19 | 20 | |
| p-isopropyltoluene | 3.1690 | 2.7367 | .05 | 14 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.6242 | .6 | 8 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.6567 | .5 | 7 | 20 | |
| n-butylbenzene | 3.0962 | 2.4877 | .05 | 20 | 20 | |
| 1,2-dichlorobenzene | 1.4995 | 1.4422 | .4 | 4 | 20 | |
| 1,2-dibromo-3-chloropropane | .05659 | .05106 | .05 | 10 | 20 | |
| 1,2,4-trichlorobenzene | .83258 | .72462 | .2 | 13 | 20 | |
| hexachlorobutadiene | .4051 | .36687 | .05 | 9 | 20 | |
| naphthalene | 1.3212 | 1.0314 | .05 | 22 | 20 | F |
| 1,2,3-trichlorobenzene | .61394 | .52103 | .05 | 15 | 20 | |
| dibromofluoromethane | .23183 | .24387 | .05 | -5 | 20 | |
| 1,2-dichloroethane-d4 | .19112 | .20002 | .05 | -5 | 20 | |
| toluene-d8 | 1.2966 | 1.2558 | .05 | 3 | 20 | |
| 4-bromofluorobenzene | .84277 | .81843 | .05 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 08-APR-2011  Time: 05:41

Lab File ID: 0408A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .25614 | .1 | 27 | 20 | F |
| chloromethane | .35628 | .28958 | .1 | 19 | 20 | |
| vinyl chloride | .30181 | .29149 | .1 | 3 | 20 | |
| bromomethane | .22898 | .15543 | .1 | 32 | 20 | F |
| chloroethane | .20794 | .21332 | .1 | -3 | 20 | |
| trichlorofluoromethane | .42568 | .50993 | .1 | -20 | 20 | |
| ethyl ether | .12007 | .12756 | .05 | -6 | 20 | |
| acrolien | .02445 | .02327 | .05 | 5 | 20 | F |
| freon-113 | .29194 | .25061 | .1 | 14 | 20 | |
| acetone | 100 | 98.083 | .1 | 2 | 20 | |
| 1,1,-dichloroethene | .30271 | .3177 | .1 | -5 | 20 | |
| tert-butyl alcohol | .00951 | .00756 | .05 | 20 | 20 | F |
| iodomethane | .50617 | .40107 | .05 | 21 | 20 | F |
| methylene chloride | .30372 | .31396 | .1 | -3 | 20 | |
| carbon disulfide | .91586 | .86178 | .1 | 6 | 20 | |
| acrylonitrile | .0487 | .04675 | .05 | 4 | 20 | F |
| methyl tert butyl ether | .51963 | .4952 | .1 | 5 | 20 | |
| Halothane | .25477 | .25387 | .05 | 0 | 20 | |
| trans-1,2-dichloroethene | .34461 | .34998 | .1 | -2 | 20 | |
| Diisopropyl Ether | .81846 | .77081 | .05 | 6 | 20 | |
| vinyl acetate | .38582 | .36843 | .05 | 5 | 20 | |
| 1,1-dichloroethane | .58497 | .58479 | .2 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .62012 | .05 | 12 | 20 | |
| 2-butanone | .05505 | .04775 | .1 | 13 | 20 | F |
| 2,2-dichloropropane | .38987 | .34004 | .05 | 13 | 20 | |
| ethyl acetate | .11173 | .09457 | .05 | 15 | 20 | |
| cis-1,2-dichloroethene | .36598 | .39127 | .1 | -7 | 20 | |
| chloroform | .55517 | .57489 | .2 | -4 | 20 | |
| bromochloromethane | .13826 | .15054 | .05 | -9 | 20 | |
| tetrahydrofuran | 100 | 95.023 | .05 | 5 | 20 | |
| 1,1,1-trichloroethane | .50175 | .48178 | .1 | 4 | 20 | |
| 1,1-dichloropropene | .47777 | .48011 | .05 | 0 | 20 | |
| carbontetrachloride | .40299 | .37583 | .1 | 7 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .52414 | .05 | 11 | 20 | |
| 1,2-dichloroethane | .29658 | .31265 | .1 | -5 | 20 | |
| benzene | 1.4222 | 1.4243 | .5 | 0 | 20 | |
| trichloroethene | .35492 | .36277 | .2 | -2 | 20 | |
| 1,2-dichloropropane | .31236 | .30168 | .1 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 08-APR-2011  Time: 05:41

Lab File ID: 0408A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| bromodichloromethane | .34843 | .3437 | .2 | 1 | 20 | |
| 1,4-dioxane | .00121 | .00139 | .05 | -14 | 20 | F |
| dibromomethane | .12614 | .12872 | .05 | -2 | 20 | |
| 2-chloroethylvinyl ether | .10568 | .07853 | .05 | 26 | 20 | F |
| 4-methyl-2-pentanone | .05144 | .04568 | .1 | 11 | 20 | F |
| cis-1,3-dichloropropene | .449 | .36655 | .2 | 18 | 20 | |
| toluene | 1.1887 | 1.1329 | .4 | 5 | 20 | |
| trans-1,3-dichloropropene | .40626 | .30863 | .1 | 24 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .18013 | .1 | 4 | 20 | |
| 2-hexanone | .10447 | .08562 | .1 | 18 | 20 | |
| 1,3-dichloropropane | .41055 | .40068 | .05 | 2 | 20 | |
| tetrachloroethene | .54918 | .56541 | .2 | -3 | 20 | |
| chlorodibromomethane | .26275 | .25032 | .1 | 5 | 20 | |
| 1,2-dibromoethane | .21528 | .20705 | .1 | 4 | 20 | |
| chlorobenzene | 1.3469 | 1.2374 | .5 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .34261 | .05 | 12 | 20 | |
| ethyl benzene | 2.4104 | 2.2863 | .1 | 5 | 20 | |
| p/m xylene | .97612 | .93241 | .1 | 4 | 20 | |
| o xylene | .96041 | .90296 | .3 | 6 | 20 | |
| styrene | 1.5385 | 1.4767 | .31 | 4 | 20 | |
| isopropylbenzene | 2.4862 | 2.2873 | .1 | 8 | 20 | |
| trans-1,4-dichloro-2-butene | .03888 | .03802 | .05 | 2 | 20 | F |
| bromoform | .23103 | .22064 | .1 | 5 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .39227 | .3 | -1 | 20 | |
| 1,2,3-trichloropropane | .302 | .30305 | .05 | 0 | 20 | |
| n-propylbenzene | 4.2789 | 4.1235 | .05 | 4 | 20 | |
| bromobenzene | .85391 | .89606 | .05 | -5 | 20 | |
| 4-ethyltoluene | 2.1733 | 1.8324 | .05 | 16 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.8671 | .05 | 8 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.7558 | .05 | 2 | 20 | |
| 4-chorotoluene | 2.6385 | 2.6115 | .05 | 1 | 20 | |
| tert-butylbenzene | 2.7401 | 2.5567 | .05 | 7 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.9953 | .05 | 5 | 20 | |
| sec-butylbenzene | 3.7202 | 3.4621 | .05 | 7 | 20 | |
| p-isopropyltoluene | 3.1690 | 3.0305 | .05 | 4 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.7311 | .6 | 1 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.7649 | .5 | 1 | 20 | |
| n-butylbenzene | 3.0962 | 2.7697 | .05 | 11 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104558

Instrument ID: Quimby.i  Calibration Date: 08-APR-2011  Time: 05:41

Lab File ID: 0408A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,2,4,5-tetramathylbenezene | 1.0900 | .91535 | .05 | 16 | 20 |
| 1,2-dichlorobenzene | 1.4995 | 1.5018 | .4 | 0 | 20 |
| p-diethylbenzene | 1.5484 | 1.3278 | .05 | 14 | 20 |
| 1,2-dibromo-3-chloropropane | .05659 | .05053 | .05 | 11 | 20 |
| 1,3,5-trichlorobenzene | 1.0666 | .91426 | .01 | 14 | 30 |
| 1,2,4-trichlorobenzene | .83258 | .7538 | .2 | 9 | 20 |
| hexachlorobutadiene | .4051 | .3705 | .05 | 9 | 20 |
| naphthalene | 1.3212 | 1.1451 | .05 | 13 | 20 |
| 1,2,3-trichlorobenzene | .61394 | .53533 | .05 | 13 | 20 |
| dibromofluoromethane | .23183 | .2374 | .05 | -2 | 20 |
| 1,2-dichloroethane-d4 | .19112 | .1921 | .05 | -1 | 20 |
| toluene-d8 | 1.2966 | 1.2670 | .05 | 2 | 20 |
| 4-bromofluorobenzene | .84277 | .83639 | .05 | 1 | 20 |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104479 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/11/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104479
**Report Date:** 04/11/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104479-01 | MW-202M-20110405-01 | WAYLAND, MA | 04/05/11 10:45 |
| L1104479-02 | MW-46M-20110405-01 | WAYLAND, MA | 04/05/11 09:35 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104479

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104479
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

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Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henriksen

Title: Technical Director/Representative Date: 04/11/11

# ORGANICS

# SEMIVOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104479

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104479-01 | Date Collected: | 04/05/11 10:45 |
| Client ID: | MW-202M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/06/11 14:30 |
| Analytical Date: | 04/07/11 12:14 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 608 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 27 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104479

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104479-02 | Date Collected: | 04/05/11 09:35 |
| Client ID: | MW-46M-20110405-01 | Date Received: | 04/05/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/06/11 14:30 |
| Analytical Date: | 04/07/11 12:58 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 1120 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 25 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104479
**Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 04/07/11 10:02
Analyst: JD

Extraction Method: EPA 3510C
Extraction Date: 04/06/11 14:30

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab for sample(s): 01-02 Batch: WG461788-1 | | | | | |
| 1,4-Dioxane | ND | | ng/l | 500 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 26 | | 15-110 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104479

**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG461788-2 WG461788-3 | | | | | | | | |
| 1,4-Dioxane | 111 | | 112 | | 40-140 | 1 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,4-Dioxane-d8 | 27 | | 29 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104479
**Report Date:** 04/11/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104479-01A | Amber 1000ml unpreserved | A | 7 | 2 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104479-01B | Amber 1000ml unpreserved | A | 7 | 2 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104479-02A | Amber 1000ml unpreserved | A | 7 | 2 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104479-02B | Amber 1000ml unpreserved | A | 7 | 2 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104479 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104479 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104479
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# Certificate/Approval Program Summary

Last revised March 23, 2011 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C.)

*Biological Tissue* (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C.)

*Air & Emissions* (EPA TO-15.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA, 245.1, 245.7, 1631E, 180.1, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081, 8082, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7470A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, SM2320B, EPA 200.8, SM2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 7470A, 9040B, 6020, 9010B, 9014 Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640C, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9040B, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 9014, 9040B, 120.1, SM2510B, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

*Air* (Organic Parameters: EPA TO-15)

**Washington State Department of Ecology** Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 2510B, EPA 120.1, 180.1, 1631E, 245.7.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 9040, 9060, 6020, 7470, 7471, 7474. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270, 8260.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015-DRO.

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Serial_No:04111109:47

# CHAIN OF CUSTODY

PAGE 1 OF 2

E

Date Rec'd in Lab: 4/5/11 ALPHA Job #: L1104479

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: ERM
Address: 399 Boylston Street 6th floor Boston, MA
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flatley@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0131386.01
Project Manager: Jason Flatley
ALPHA Quote #:

**Turn-Around Time**

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 4/19/11 Time:

**Report Information - Data Deliverables**

☐ FAX ☑ EMAIL
☑ ADEx ☑ Add'l Deliverables

**Billing Information**

☑ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program MA MCP Criteria GW-1

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☑ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8011C x 8260B) | 1,4 Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 04479-1 | MW-202M-20110405-01 | 4/5/11 | 1045 | GW | EW | 2 | 2 | | 4 |
| | MW-40-20110405-01 | | 0950 | | SMC | 2 | | | 2 |
| | MW-45B-20110405-01 | | 1345 | | SMC | 2 | | | 2 |
| 2 | MW-46M-20110405-01 | | 0935 | | SMC | 2 | 2 | | 4 |
| | MW-47M-20110405-01 | | 1525 | | SMC | 2 | | | 2 |
| | MW-46M-20110405-01-MS | | 0935 | | SMC | 2 | | | 2 |
| | MW-46M-20110405-01-MSD | | 0935 | | SMC | 2 | | | 2 |
| | MW-145-20110405-01 | | 1235 | | SMC | 2 | | | 2 |
| | DUP-004-20110405-01 | — | 1111 | — | SMC | 2 | | | 2 |
| | TB-002-20110405-01 | 3/28/11 | 0654 | — | KR | 1 | | | 1 |
| | | | | | Container Type | V | A | | |
| | | | | | Preservative | B | A | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Emily Lin | 1545 4/5/11 | Mann Lodge | 4/5/11 1546 |
| Mann Lodge | 4/5/11 1630 | | 4/5/11 1630 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Page 2 of 2

# CHAIN OF CUSTODY

PAGE 1 OF 2

E

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/5/11 ALPHA Job #:

**Client Information**

Client: ERM
Address: 399 Boylston Street 6th floor Boston, MA
Phone: (617) 646-7800
Fax: (617) 267-6447
Email: jason.flatley@erm.com
☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: Raytheon Wayland
Project Location: Wayland, MA
Project #: 0131386.01
Project Manager: Jason Flatley
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 4/19/11 Time:

**Report Information - Data Deliverables**

☐ FAX ☒ EMAIL
☒ ADEx ☒ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State /Fed Program MA MCP Criteria GW-1

**MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO**

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: ~~VOCs (see note above)~~; 1,4-Dioxane (8270SIM)

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs (see note above) | 1,4-Dioxane (8270SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 04112 1 | MW-202M-20110405-01 | 4/5/11 | 1045 | GW | EW | 2 | 2 | | 4 |
| | MW-40-20110405-01 | | 0950 | | SMC | 2 | | | 2 |
| | MW-45B-20110405-01 | | 1345 | | SMC | 2 | | | 2 |
| 2 | MW-46M-20110405-01 | | 0935 | | SMC | 2 | 2 | | 4 |
| | MW-47M-20110405-01 | | 1525 | | SMC | 2 | | | 2 |
| | MW-46M-20110405-01-MS | | 0935 | | SMC | 2 | | | 2 |
| | MW-46M-20110405-01-MSD | | 0935 | | SMC | 2 | | | 2 |
| | MW-145-20110405-01 | | 1235 | | SMC | 2 | | | 2 |
| | DUP-004-20110405-01 | — | 1111 | — | SMC | 2 | | | 2 |
| | TB-002-20110405-01 | 3/28/11 | 0654 | — | KR | | | | 1 |

| | | |
|---|---|---|
| Container Type | V | A |
| Preservative | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 1545 4/5/11 | [illegible] | 4/5/11 1546 |
| [illegible] | 4/5/11 1630 | [illegible] | 4/5/11 1630 |
| [illegible] | 4/5/11 | [illegible] | 4/6/11 705 |
| [illegible] | 4-6-1 750 | [illegible] | 4/6/11 0750 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104399 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/08/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104399
**Report Date:** 04/08/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104399-01 | MW-266MA-20110404-01 | WAYLAND, MA | 04/04/11 13:20 |
| L1104399-02 | MW-267S-20110404-01 | WAYLAND, MA | 04/04/11 13:00 |
| L1104399-03 | MW-267M-20110404-01 | WAYLAND, MA | 04/04/11 14:30 |
| L1104399-04 | DUP-002-20110404-01 | WAYLAND, MA | 04/04/11 12:12 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399

**Project Number:** 0131386.01 **Report Date:** 04/08/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | YES |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399
**Project Number:** 0131386.01 **Report Date:** 04/08/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Peter Henriksen

Title: Technical Director/Representative Date: 04/08/11

# ORGANICS

# SEMIVOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399

**Project Number:** 0131386.01 **Report Date:** 04/08/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104399-01 | Date Collected: | 04/04/11 13:20 |
| Client ID: | MW-266MA-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/05/11 13:00 |
| Analytical Date: | 04/06/11 12:40 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 1180 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 26 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399

**Project Number:** 0131386.01 **Report Date:** 04/08/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104399-02 | Date Collected: | 04/04/11 13:00 |
| Client ID: | MW-267S-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/05/11 13:00 |
| Analytical Date: | 04/06/11 13:24 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 11500 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 26 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399

**Project Number:** 0131386.01 **Report Date:** 04/08/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104399-03 | Date Collected: | 04/04/11 14:30 |
| Client ID: | MW-267M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/05/11 13:00 |
| Analytical Date: | 04/06/11 14:09 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 2810 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 26 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399

**Project Number:** 0131386.01 **Report Date:** 04/08/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104399-04 | Date Collected: | 04/04/11 12:12 |
| Client ID: | DUP-002-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 3510C |
| Analytical Method: | 1,8270C-SIM | Extraction Date: | 04/05/11 13:00 |
| Analytical Date: | 04/06/11 14:53 | | |
| Analyst: | JD | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab | | | | | | |
| 1,4-Dioxane | 11800 | | ng/l | 500 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 27 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104399
**Report Date:** 04/08/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 04/06/11 07:33
Analyst: JD

Extraction Method: EPA 3510C
Extraction Date: 04/05/11 13:00

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab for sample(s): 01-04 Batch: WG461572-1 | | | | | |
| 1,4-Dioxane | ND | | ng/l | 500 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Dioxane-d8 | 25 | | 15-110 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0131386.01

**Lab Number:** L1104399

**Report Date:** 04/08/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| 1,4 Dioxane by 8270C-SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG461572-2 WG461572-3 | | | | | | | | |
| 1,4-Dioxane | 110 | | 112 | | 40-140 | 2 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,4-Dioxane-d8 | 27 | | 34 | | 15-110 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104399
**Report Date:** 04/08/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104399-01A | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-01B | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-02A | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-02B | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-03A | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-03B | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-04A | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |
| L1104399-04B | Amber 1000ml unpreserved | A | 7 | 3.0 | Y | Absent | A2-1,4-DIOXANE-SIM(7) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104399 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/08/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104399 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/08/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104399
**Project Number:** 0131386.01 **Report Date:** 04/08/11

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# Certificate/Approval Program Summary

Last revised March 23, 2011 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C.)

*Biological Tissue* (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C.)

*Air & Emissions* (EPA TO-15.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA, 245.1, 245.7, 1631E, 180.1, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081, 8082, 8260B, 8270C.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7470A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, SM2320B, EPA 200.8, SM2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 7470A, 9040B, 6020, 9010B, 9014 Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640C, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9040B, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 9014, 9040B, 120.1, SM2510B, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

*Air* (Organic Parameters: EPA TO-15)

**Washington State Department of Ecology** Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 2510B, EPA 120.1, 180.1, 1631E, 245.7.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 9040, 9060, 6020, 7470, 7471, 7474. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270, 8260.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015-DRO.

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Serial_No:04081112:20

# CHAIN OF CUSTODY

PAGE 1 OF 1

E

ALPHA TECHNICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/4/11

ALPHA Job #: L1104399

## Client Information

Client: ERM

Address: 399 Boylston St. 4th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatley@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatley

ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 4/18/11 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL

☐ ADEx ☑ Add'l Deliverables

## Billing Information

☑ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8021/8260) | 1,4 Dioxane (8270 SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 01 | MW-2666Ma-20110404-01 | 4/4/11 | 1320 | GW | EW | 2 | 2 | | 4 |
| 02 | MW-2675-20110404-01 | | 1300 | | JPD | 2 | 2 | | 4 |
| 03 | MW-267M-20110404-01 | | 1430 | | JPD | 2 | 2 | | 4 |
| 04 | DUP-002-20110404-01 | | 1212 | | JPD | 2 | 2 | | 4 |
| | MW-268D-20110404-01 | | 1435 | | EW | 2 | | | 2 |
| | TB-001-20110404-01 | 3/28/11 | 0500 | — | KR | 1 | | | 1 |
| | MW-268D-20110404-01-MS | 4/4/11 | 1435 | GW | EW | 2 | | | 2 |
| | MW-268D-20110404-01-MSD | 4/4/11 | 1435 | | EW | 2 | | | 2 |
| | Container Type | | | | | V | A | | |
| | Preservative | | | | | B | A | | |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 4/4/11 1545 | [signature] | 4/4/11 1545 |
| [signature] | 4/4/11 1630 | [signature] | 4/4/11 1630 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Serial_No:04081112:20

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

E

Date Rec'd in Lab: 4/4/11

ALPHA Job #:

## Client Information

Client: ERM

Address: 399 Boylston St. 6th Floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatten@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatten

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/18/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW-1

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: cVOCs (8260B) 8260B; 1,4 Dioxane (8270 SIM)

SAMPLE HANDLING
Filtration: ☐ Done ☐ Not needed ☒ Lab to do
Preservation: ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | cVOCs (8260B) | 1,4 Dioxane (8270 SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 04399-1 | MW-266Ma-20110404-01 | 4/4/11 | 1320 | GW | EW | 2 | 2 | | 4 |
| 2 | MW-267S-20110404-01 | | 1300 | | JPD | 2 | 2 | | 4 |
| 3 | MW-267M-20110404-01 | | 1430 | | JPD | 2 | 2 | | 4 |
| 4 | DUP-002-20110404-01 | | 1202 | | JPD | 2 | 2 | | 4 |
| | MW-268D-20110404-01 | | 1435 | | EW | 2 | | | 2 |
| | TB-001-20110404-01 | 3/28/11 | 0500 | | KR | 1 | | | 1 |
| | MW-268D-20110404-01-MS | 4/4/11 | 1435 | GW | EW | 2 | | | 2 |
| | MW-268D-20110404-01-MSD | 4/4/11 | 1435 | | EW | 2 | | | 2 |
| | | | | | | | | | |
| | | | | | | | | | |

| | | |
|---|---|---|
| Container Type | V | A |
| Preservative | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 4/4/11 1545 | | 4/4/11 1545 |
| | 4/4/11 1630 | | 4/4/11 1630 |
| | 4/4/11 | | 4/5/11 910 |
| J. Gillett | 4/5/11 1005 | | |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's terms and conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104398 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/11/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104398
**Report Date:** 04/11/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104398-01 | MW-266MA-20110404-01 | WAYLAND, MA | 04/04/11 13:20 |
| L1104398-02 | MW-267S-20110404-01 | WAYLAND, MA | 04/04/11 13:00 |
| L1104398-03 | MW-267M-20110404-01 | WAYLAND, MA | 04/04/11 14:30 |
| L1104398-04 | DUP-002-20110404-01 | WAYLAND, MA | 04/04/11 12:12 |
| L1104398-05 | MW-268D-20110404-01 | WAYLAND, MA | 04/04/11 14:35 |
| L1104398-06 | TB-001-20110404-01 | WAYLAND, MA | 04/04/11 00:00 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Report Submission

The analysis of 1,4-Dioxane by method 8270-SIM isotope dilution is being performed at our Mansfield facility, and the results will be issued under separate cover.

Volatile Organics

L1104398-02, -03 and -04 were re-analyzed on dilutions in order to quantitate the samples within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analyses were performed only for the compounds that exceeded the calibration range.

In reference to question H:

The WG462392-2 LCSD recovery, associated with L1104398-02, -03 and -05, is below the acceptance

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398
**Project Number:** 0131386.01 **Report Date:** 04/11/11

**Case Narrative (continued)**

criteria for Dichlorodifluoromethane (65%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The WG462392-4 MS recoveries, performed on L1104398-05, were above the acceptance criteria for 1,1-Dichloroethene (134%) and Trichloroethene (133%); however, the associated LCS/LCSD recoveries were within criteria. The results of the sample utilized for the MS/MSD are considered to have a potentially high bias for these compounds.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 04/11/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-01 | Date Collected: | 04/04/11 13:20 |
| Client ID: | MW-266MA-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/07/11 18:55 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 6.0 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 2.3 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-01 | Date Collected: | 04/04/11 13:20 |
| Client ID: | MW-266MA-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 112 | | 70-130 |
| Dibromofluoromethane | 112 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-02 | Date Collected: | 04/04/11 13:00 |
| Client ID: | MW-267S-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 14:06 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 11 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | 1.0 | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 620 | E | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 97 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

Lab ID: L1104398-02 Date Collected: 04/04/11 13:00

Client ID: MW-267S-20110404-01 Date Received: 04/04/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-02 D | Date Collected: | 04/04/11 13:00 |
| Client ID: | MW-267S-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 11:08 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Trichloroethene | 510 | | ug/l | 10 | -- | 10 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-03 | Date Collected: | 04/04/11 14:30 |
| Client ID: | MW-267M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 15:34 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.2 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 15 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | 17 | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 210 | E | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 280 | E | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

Lab ID: L1104398-03 Date Collected: 04/04/11 14:30

Client ID: MW-267M-20110404-01 Date Received: 04/04/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-03 D | Date Collected: | 04/04/11 14:30 |
| Client ID: | MW-267M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 14:38 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Trichloroethene | 240 | | ug/l | 20 | -- | 20 |
| cis-1,2-Dichloroethene | 320 | | ug/l | 20 | -- | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-04 | Date Collected: | 04/04/11 12:12 |
| Client ID: | DUP-002-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 10:36 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | 1.3 | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 13 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 550 | E | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 85 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

Lab ID: L1104398-04 Date Collected: 04/04/11 12:12

Client ID: DUP-002-20110404-01 Date Received: 04/04/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 109 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-04 D | Date Collected: | 04/04/11 12:12 |
| Client ID: | DUP-002-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/11/11 11:41 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Trichloroethene | 450 | | ug/l | 5.0 | -- | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-05 | Date Collected: | 04/04/11 14:35 |
| Client ID: | MW-268D-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 15:09 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 8.4 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 9.8 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

Lab ID: L1104398-05 Date Collected: 04/04/11 14:35

Client ID: MW-268D-20110404-01 Date Received: 04/04/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104398-06 | Date Collected: | 04/04/11 00:00 |
| Client ID: | TB-001-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/07/11 12:24 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

Lab ID: L1104398-06 Date Collected: 04/04/11 00:00

Client ID: TB-001-20110404-01 Date Received: 04/04/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 115 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/07/11 09:09
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,06 Batch: WG462100-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/07/11 09:09
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01,06 Batch: WG462100-3 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| D bromofluoromethane | 111 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG462392-11 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 08:59
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG462392-11 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03,05 Batch: WG462392-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03,05 Batch: WG462392-3 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03 Batch: WG462392-7 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104398

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/11/11 09:47
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 03 Batch: WG462392-7 | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| D bromofluoromethane | 108 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,06 Batch: WG462100-1 WG462100-2 | | | | | | | | |
| Methylene chloride | 90 | | 100 | | 70-130 | 11 | | 20 |
| 1,1-Dichloroethane | 84 | | 91 | | 70-130 | 8 | | 20 |
| Chloroform | 85 | | 96 | | 70-130 | 12 | | 20 |
| Carbon tetrachloride | 91 | | 95 | | 70-130 | 4 | | 20 |
| 1,2-Dichloropropane | 81 | | 93 | | 70-130 | 14 | | 20 |
| Dibromochloromethane | 94 | | 108 | | 70-130 | 14 | | 20 |
| 1,1,2-Trichloroethane | 90 | | 100 | | 70-130 | 11 | | 20 |
| Tetrachloroethene | 109 | | 109 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 88 | | 100 | | 70-130 | 13 | | 20 |
| 1,2-Dichloroethane | 81 | | 97 | | 70-130 | 18 | | 20 |
| 1,1,1-Trichloroethane | 86 | | 93 | | 70-130 | 8 | | 20 |
| Bromodichloromethane | 85 | | 98 | | 70-130 | 14 | | 20 |
| trans-1,3-Dichloropropene | 90 | | 102 | | 70-130 | 13 | | 20 |
| cis-1,3-Dichloropropene | 81 | | 92 | | 70-130 | 13 | | 20 |
| Bromoform | 98 | | 113 | | 70-130 | 14 | | 20 |
| 1,1,2,2-Tetrachloroethane | 83 | | 95 | | 70-130 | 13 | | 20 |
| Chloromethane | 84 | | 92 | | 70-130 | 9 | | 20 |
| Vinyl chloride | 90 | | 97 | | 70-130 | 7 | | 20 |
| Chloroethane | 73 | | 79 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethene | 80 | | 87 | | 70-130 | 8 | | 20 |
| trans-1,2-Dichloroethene | 88 | | 92 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01,06 Batch: WG462100-1 WG462100-2 | | | | | | | | |
| Trichloroethene | 87 | | 93 | | 70-130 | 7 | | 20 |
| 1,2-Dichlorobenzene | 91 | | 102 | | 70-130 | 11 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 101 | | 70-130 | 14 | | 20 |
| 1,4-Dichlorobenzene | 90 | | 103 | | 70-130 | 13 | | 20 |
| cis-1,2-Dichloroethene | 89 | | 99 | | 70-130 | 11 | | 20 |
| Dichlorodifluoromethane | 90 | | 101 | | 70-130 | 12 | | 20 |
| 1,2-Dibromoethane | 92 | | 101 | | 70-130 | 9 | | 20 |
| 1,3-Dichloropropane | 87 | | 99 | | 70-130 | 13 | | 20 |
| 1,1,1,2-Tetrachloroethane | 95 | | 112 | | 70-130 | 16 | | 20 |
| o-Chlorotoluene | 84 | | 93 | | 70-130 | 10 | | 20 |
| p-Chlorotoluene | 95 | | 105 | | 70-130 | 10 | | 20 |
| Hexachlorobutadiene | 98 | | 108 | | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | 83 | | 96 | | 70-130 | 15 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 95 | | 70-130 |
| Toluene-d8 | 103 | | 96 | | 70-130 |
| 4-Bromofluorobenzene | 89 | | 87 | | 70-130 |
| Dibromofluoromethane | 102 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03,05 Batch: WG462392-1 WG462392-2 | | | | | | | | |
| Methylene chloride | 103 | | 100 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 100 | | 96 | | 70-130 | 4 | | 20 |
| Chloroform | 104 | | 100 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 93 | | 85 | | 70-130 | 9 | | 20 |
| 1,2-Dichloropropane | 97 | | 93 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 95 | | 89 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Tetrachloroethene | 103 | | 99 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| 1,2-Dichloroethane | 105 | | 100 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 96 | | 90 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 72 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 77 | | 70-130 | 6 | | 20 |
| Bromoform | 96 | | 87 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 99 | | 70-130 | 2 | | 20 |
| Chloromethane | 81 | | 78 | | 70-130 | 4 | | 20 |
| Vinyl chloride | 97 | | 88 | | 70-130 | 10 | | 20 |
| Chloroethane | 102 | | 98 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 105 | | 97 | | 70-130 | 8 | | 20 |
| trans-1,2-Dichloroethene | 102 | | 96 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03,05 Batch: WG462392-1 WG462392-2 | | | | | | | | |
| Trichloroethene | 102 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 94 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 107 | | 102 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 73 | | **65** | Q | 70-130 | 12 | | 20 |
| 1,2-Dibromoethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 81 | | 70-130 | 8 | | 20 |
| o-Chlorotoluene | 98 | | 93 | | 70-130 | 5 | | 20 |
| p-Chlorotoluene | 99 | | 95 | | 70-130 | 4 | | 20 |
| Hexachlorobutadiene | 91 | | 84 | | 70-130 | 8 | | 20 |
| 1,2,4-Trichlorobenzene | 90 | | 86 | | 70-130 | 5 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 103 | | 70-130 |
| Toluene-d8 | 98 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG462392-5 WG462392-6 | | | | | | | | |
| Methylene chloride | 102 | | 94 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| Chloroform | 102 | | 96 | | 70-130 | 6 | | 20 |
| Carbon tetrachloride | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 92 | | 88 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 88 | | 70-130 | 8 | | 20 |
| Tetrachloroethene | 99 | | 93 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 89 | | 84 | | 70-130 | 6 | | 20 |
| 1,2-Dichloroethane | 108 | | 102 | | 70-130 | 6 | | 20 |
| 1,1,1-Trichloroethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| Bromodichloromethane | 102 | | 94 | | 70-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 71 | | 70-130 | 7 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 75 | | 70-130 | 9 | | 20 |
| Bromoform | 102 | | 93 | | 70-130 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 98 | | 92 | | 70-130 | 6 | | 20 |
| Chloromethane | 87 | | 82 | | 70-130 | 6 | | 20 |
| Vinyl chloride | 100 | | 97 | | 70-130 | 3 | | 20 |
| Chloroethane | 103 | | 98 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethene | 102 | | 100 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 101 | | 95 | | 70-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 03 Batch: WG462392-5 WG462392-6 | | | | | | | | |
| Trichloroethene | 103 | | 94 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 89 | | 70-130 | 8 | | 20 |
| 1,3-Dichlorobenzene | 92 | | 87 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 87 | | 70-130 | 7 | | 20 |
| cis-1,2-Dichloroethene | 102 | | 97 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 79 | | 75 | | 70-130 | 5 | | 20 |
| 1,2-Dibromoethane | 98 | | 91 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 98 | | 90 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 84 | | 70-130 | 5 | | 20 |
| o-Chlorotoluene | 89 | | 84 | | 70-130 | 6 | | 20 |
| p-Chlorotoluene | 91 | | 86 | | 70-130 | 6 | | 20 |
| Hexachlorobutadiene | 91 | | 90 | | 70-130 | 1 | | 20 |
| 1,2,4-Trichlorobenzene | 87 | | 81 | | 70-130 | 7 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 104 | | 70-130 |
| Toluene-d8 | 97 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 105 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG462392-9 WG462392-10 | | | | | | | | |
| Methylene chloride | 97 | | 94 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 93 | | 91 | | 70-130 | 2 | | 20 |
| Chloroform | 92 | | 91 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 99 | | 97 | | 70-130 | 2 | | 20 |
| 1,2-Dichloropropane | 91 | | 90 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 106 | | 106 | | 70-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 92 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 119 | | 111 | | 70-130 | 7 | | 20 |
| Chlorobenzene | 92 | | 87 | | 70-130 | 6 | | 20 |
| 1,2-Dichloroethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 99 | | 94 | | 70-130 | 5 | | 20 |
| Bromodichloromethane | 90 | | 86 | | 70-130 | 5 | | 20 |
| trans-1,3-Dichloropropene | 97 | | 93 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 91 | | 90 | | 70-130 | 1 | | 20 |
| Bromoform | 101 | | 105 | | 70-130 | 4 | | 20 |
| 1,1,2,2-Tetrachloroethane | 81 | | 81 | | 70-130 | 0 | | 20 |
| Chloromethane | 85 | | 85 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 96 | | 96 | | 70-130 | 0 | | 20 |
| Chloroethane | 71 | | 70 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethene | 89 | | 87 | | 70-130 | 2 | | 20 |
| trans-1,2-Dichloroethene | 98 | | 93 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG462392-9 WG462392-10 | | | | | | | | |
| Trichloroethene | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,2-Dichlorobenzene | 90 | | 90 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| cis-1,2-Dichloroethene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 95 | | 96 | | 70-130 | 1 | | 20 |
| 1,2-Dibromoethane | 98 | | 95 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 93 | | 90 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 103 | | 100 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 82 | | 82 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 82 | | 82 | | 70-130 | 0 | | 20 |
| Hexachlorobutadiene | 96 | | 103 | | 70-130 | 7 | | 20 |
| 1,2,4-Trichlorobenzene | 108 | | 106 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 91 | | 93 | | 70-130 |
| Toluene-d8 | 100 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 87 | | 92 | | 70-130 |
| Dibromofluoromethane | 105 | | 102 | | 70-130 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

MCP Volatile Organics - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG462392-4 WG462392-8 QC Sample: L1104398-05 Client ID: MW-268D-20110404-01

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylene chloride | ND | 10 | 12 | 125 | | 11 | 111 | | 70-130 | 9 | | 20 |
| 1,1-Dichloroethane | ND | 10 | 12 | 124 | | 11 | 110 | | 70-130 | 9 | | 20 |
| Chloroform | ND | 10 | 13 | 128 | | 12 | 116 | | 70-130 | 8 | | 20 |
| Carbon tetrachloride | ND | 10 | 13 | 129 | | 12 | 120 | | 70-130 | 8 | | 20 |
| 1,2-Dichloropropane | ND | 10 | 11 | 114 | | 10 | 101 | | 70-130 | 10 | | 20 |
| Dibromochloromethane | ND | 10 | 12 | 120 | | 12 | 119 | | 70-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | ND | 10 | 12 | 120 | | 11 | 108 | | 70-130 | 9 | | 20 |
| Tetrachloroethene | ND | 10 | 13 | 128 | | 12 | 116 | | 70-130 | 8 | | 20 |
| Chlorobenzene | ND | 10 | 11 | 111 | | 10 | 103 | | 70-130 | 10 | | 20 |
| 1,2-Dichloroethane | ND | 10 | 13 | 130 | | 12 | 118 | | 70-130 | 8 | | 20 |
| 1,1,1-Trichloroethane | ND | 10 | 12 | 124 | | 12 | 115 | | 70-130 | 0 | | 20 |
| Bromodichloromethane | ND | 10 | 12 | 125 | | 12 | 115 | | 70-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | ND | 10 | 9.0 | 90 | | 8.5 | 85 | | 70-130 | 6 | | 20 |
| cis-1,3-Dichloropropene | ND | 10 | 9.8 | 98 | | 9.0 | 90 | | 70-130 | 9 | | 20 |
| Bromoform | ND | 10 | 12 | 122 | | 12 | 125 | | 70-130 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | ND | 10 | 12 | 121 | | 12 | 120 | | 70-130 | 0 | | 20 |
| Chloromethane | ND | 10 | 10 | 101 | | 9.7 | 97 | | 70-130 | 3 | | 20 |
| Vinyl chloride | ND | 10 | 12 | 126 | | 12 | 121 | | 70-130 | 0 | | 20 |
| Chloroethane | ND | 10 | 13 | 128 | | 12 | 118 | | 70-130 | 8 | | 20 |
| 1,1-Dichloroethene | ND | 10 | 13 | **134** | Q | 12 | 122 | | 70-130 | 8 | | 20 |
| trans-1,2-Dichloroethene | ND | 10 | 12 | 125 | | 11 | 115 | | 70-130 | 9 | | 20 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104398
**Report Date:** 04/11/11

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG462392-4 WG462392-8 QC Sample: L1104398-05 Client ID: MW-268D-20110404-01 | | | | | | | | | | | | |
| Trichloroethene | 8.4 | 10 | 22 | **133** | Q | 20 | 113 | | 70-130 | 10 | | 20 |
| 1,2-Dichlorobenzene | ND | 10 | 11 | 113 | | 11 | 110 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | ND | 10 | 11 | 111 | | 11 | 107 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | ND | 10 | 11 | 112 | | 11 | 108 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 9.8 | 10 | 22 | 127 | | 21 | 109 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | ND | 10 | 9.1 | 91 | | 9.4 | 94 | | 70-130 | 3 | | 20 |
| 1,2-Dibromoethane | ND | 10 | 12 | 118 | | 11 | 110 | | 70-130 | 9 | | 20 |
| 1,3-Dichloropropane | ND | 10 | 12 | 120 | | 11 | 109 | | 70-130 | 9 | | 20 |
| 1,1,1,2-Tetrachloroethane | ND | 10 | 11 | 110 | | 10 | 105 | | 70-130 | 10 | | 20 |
| o-Chlorotoluene | ND | 10 | 11 | 111 | | 10 | 103 | | 70-130 | 10 | | 20 |
| p-Chlorotoluene | ND | 10 | 11 | 112 | | 10 | 105 | | 70-130 | 10 | | 20 |
| Hexachlorobutadiene | ND | 10 | 10 | 104 | | 11 | 106 | | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | ND | 10 | 9.5 | 95 | | 9.4 | 94 | | 70-130 | 1 | | 20 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 106 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 96 | | 70-130 |
| Dibromofluoromethane | 106 | | 104 | | 70-130 |
| Toluene-d8 | 98 | | 97 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104398
**Report Date:** 04/11/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104398-01A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-01B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-02A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-02B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-03A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-03B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-04A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-04B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-05A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-05B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-05C | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-05D | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-05E | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-05F | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104398-06A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104398 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104398 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

E

Date Rec'd in Lab: 4/4/11

ALPHA Job #: L1104398

## Client Information

Client: ERM

Address: 399 Boylston St. 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 267-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatteny

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/11/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW-1

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: CVOCs (8021GW 8260) 1,4 Dioxane (8270 SIM)

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8021GW 8260) | 1,4 Dioxane (8270 SIM) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 04398-1 | MW-266Ma-20110404-01 | 4/4/11 | 1320 | GW | EW | 2 | 2 | | 4 |
| 2 | MW-267S-20110404-01 | | 1300 | | JPD | 2 | 2 | | 4 |
| 3 | MW-267M-20110404-01 | | 1430 | | JPD | 2 | 2 | | 4 |
| 4 | DUP-002-20110404-01 | | 1202 | | JPD | 2 | 2 | | 4 |
| 5 | MW-268D-20110404-01 | | 1435 | | EW | 2 | | | 2 |
| 6 | TB-001-20110404-01 | 3/28/11 | 0500 | — | KR | 1 | | | 1 |
| 5 | MW-268D-20110404-01-MS | 4/4/11 | 1435 | GW | EW | 2 | | | 2 |
| 5 | MW-268D-20110404-01-MSD | 4/4/11 | 1435 | | EW | 2 | | | 2 |

| | | |
|---|---|---|
| Container Type | V | A |
| Preservative | B | A |

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 4/4/11 1545 | [signature] | 4/4/11 1545 |
| [signature] | 4/4/11 1630 | [signature] | 4/4/11 1630 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)



Serial_No:04111116:31

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1104394 |
| Client: | ERM Consulting & Engineering, Inc.<br>399 Boylston Street<br>6th Floor<br>Boston, MA 02116 |
| ATTN: | Jason Flattery |
| Phone: | (617) 646-7816 |
| Project Name: | RAYTHEON WAYLAND |
| Project Number: | 0131386.01 |
| Report Date: | 04/11/11 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104394
**Report Date:** 04/11/11

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1104394-01 | MW-263M-20110404-01 | WAYLAND, MA | 04/04/11 14:00 |
| L1104394-02 | MW-264M-20110404-01 | WAYLAND, MA | 04/04/11 15:20 |
| L1104394-03 | DUP-001-20110404-01 | WAYLAND, MA | 04/04/11 11:11 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

MCP Related Narratives

Volatile Organics

In reference to question H:

The WG462116-2 LCSD recovery, associated with L1104394-01 through -03, is below the acceptance criteria for Dichlorodifluoromethane (65%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The continuing calibration standard, associated with L1104394-01 through -03, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104394 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

**Case Narrative (continued)**

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative

Date: 04/11/11

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104394-01 | Date Collected: | 04/04/11 14:00 |
| Client ID: | MW-263M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 10:57 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104394-01 | Date Collected: | 04/04/11 14:00 |
| Client ID: | MW-263M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104394-02 | Date Collected: | 04/04/11 15:20 |
| Client ID: | MW-264M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 11:28 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 7.0 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 37 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 28 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104394-02 | Date Collected: | 04/04/11 15:20 |
| Client ID: | MW-264M-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1104394-03 | Date Collected: | 04/04/11 11:11 |
| Client ID: | DUP-001-20110404-01 | Date Received: | 04/04/11 |
| Sample Location: | WAYLAND, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 97,8260B | | |
| Analytical Date: | 04/08/11 12:00 | | |
| Analyst: | MM | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloroform | ND | | ug/l | 1.0 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Tetrachloroethene | 7.2 | | ug/l | 1.0 | -- | 1 |
| Chlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- | 1 |
| Bromoform | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| Chloromethane | ND | | ug/l | 2.0 | -- | 1 |
| Vinyl chloride | 1.0 | | ug/l | 1.0 | -- | 1 |
| Chloroethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | 37 | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene | 28 | | ug/l | 1.0 | -- | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

## SAMPLE RESULTS

Lab ID: L1104394-03 Date Collected: 04/04/11 11:11

Client ID: DUP-001-20110404-01 Date Received: 04/04/11

Sample Location: WAYLAND, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG462116-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | -- |
| Chloroform | ND | | ug/l | 1.0 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- |
| Chlorobenzene | ND | | ug/l | 1.0 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | -- |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethy benzene | ND | | ug/l | 1.0 | -- |
| Chloromethane | ND | | ug/l | 2.0 | -- |
| Bromomethane | ND | | ug/l | 2.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG462116-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | -- |
| p/m-Xylene | ND | | ug/l | 2.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | -- |
| Dibromomethane | ND | | ug/l | 2.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 2.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.0 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- |
| Bromobenzene | ND | | ug/l | 2.0 | -- |
| n-Buty benzene | ND | | ug/l | 2.0 | -- |
| sec-Buty benzene | ND | | ug/l | 2.0 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.0 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.0 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | -- |
| Isopropylbenzene | ND | | ug/l | 2.0 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| n-Propy benzene | ND | | ug/l | 2.0 | -- |

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394

**Project Number:** 0131386.01 **Report Date:** 04/11/11

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG462116-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.0 | -- |
| Isopropyl Ether | ND | | ug/l | 2.0 | -- |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| D bromofluoromethane | 104 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104394
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| Methylene chloride | 103 | | 100 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 100 | | 96 | | 70-130 | 4 | | 20 |
| Chloroform | 104 | | 100 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 93 | | 85 | | 70-130 | 9 | | 20 |
| 1,2-Dichloropropane | 97 | | 93 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 95 | | 89 | | 70-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 95 | | 70-130 | 1 | | 20 |
| Tetrachloroethene | 103 | | 99 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| Trichlorofluoromethane | 120 | | 110 | | 70-130 | 9 | | 20 |
| 1,2-Dichloroethane | 105 | | 100 | | 70-130 | 5 | | 20 |
| 1,1,1-Trichloroethane | 96 | | 90 | | 70-130 | 6 | | 20 |
| Bromodichloromethane | 99 | | 92 | | 70-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 76 | | 72 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 77 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 100 | | 95 | | 70-130 | 5 | | 20 |
| Bromoform | 96 | | 87 | | 70-130 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 101 | | 99 | | 70-130 | 2 | | 20 |
| Benzene | 100 | | 96 | | 70-130 | 4 | | 20 |
| Toluene | 95 | | 92 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104394
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| Chloromethane | 81 | | 78 | | 70-130 | 4 | | 20 |
| Bromomethane | **68** | Q | **54** | Q | 70-130 | **23** | Q | 20 |
| Vinyl chloride | 97 | | 88 | | 70-130 | 10 | | 20 |
| Chloroethane | 102 | | 98 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 105 | | 97 | | 70-130 | 8 | | 20 |
| trans-1,2-Dichloroethene | 102 | | 96 | | 70-130 | 6 | | 20 |
| Trichloroethene | 102 | | 98 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 95 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 99 | | 93 | | 70-130 | 6 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 94 | | 70-130 | 5 | | 20 |
| Methyl tert butyl ether | 95 | | 94 | | 70-130 | 1 | | 20 |
| p/m-Xylene | 96 | | 93 | | 70-130 | 3 | | 20 |
| o-Xylene | 94 | | 92 | | 70-130 | 2 | | 20 |
| cis-1,2-Dichloroethene | 107 | | 102 | | 70-130 | 5 | | 20 |
| Dibromomethane | 102 | | 100 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 100 | | 97 | | 70-130 | 3 | | 20 |
| Styrene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Dichlorodifluoromethane | 73 | | **65** | Q | 70-130 | 12 | | 20 |
| Acetone | 98 | | 97 | | 70-130 | 1 | | 20 |
| Carbon disulfide | 94 | | 95 | | 70-130 | 1 | | 20 |
| 2-Butanone | 87 | | 91 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104394
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 89 | | 92 | | 70-130 | 3 | | 20 |
| 2-Hexanone | 82 | | 87 | | 70-130 | 6 | | 20 |
| Bromochloromethane | 109 | | 103 | | 70-130 | 6 | | 20 |
| Tetrahydrofuran | 95 | | 94 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 87 | | 82 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 88 | | 81 | | 70-130 | 8 | | 20 |
| Bromobenzene | 105 | | 99 | | 70-130 | 6 | | 20 |
| n-Butylbenzene | 89 | | 86 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 93 | | 88 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 93 | | 90 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 98 | | 93 | | 70-130 | 5 | | 20 |
| p-Chlorotoluene | 99 | | 95 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | 89 | | 80 | | 70-130 | 11 | | 20 |
| Hexachlorobutadiene | 91 | | 84 | | 70-130 | 8 | | 20 |
| Isopropylbenzene | 92 | | 89 | | 70-130 | 3 | | 20 |
| p-Isopropyltoluene | 96 | | 92 | | 70-130 | 4 | | 20 |
| Naphthalene | 87 | | 84 | | 70-130 | 4 | | 20 |
| n-Propylbenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichlorobenzene | 87 | | 83 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01
**Lab Number:** L1104394
**Report Date:** 04/11/11

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 90 | | 86 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 88 | | 70-130 | 4 | | 20 |
| 1,2,4-Trimethylbenzene | 95 | | 90 | | 70-130 | 5 | | 20 |
| Ethyl ether | 106 | | 104 | | 70-130 | 2 | | 20 |
| Isopropyl Ether | 94 | | 95 | | 70-130 | 1 | | 20 |
| Ethyl-Tert-Butyl-Ether | 88 | | 87 | | 70-130 | 1 | | 20 |
| Tertiary-Amyl Methyl Ether | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 114 | | 116 | | 70-130 | 2 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 103 | | 70-130 |
| Toluene-d8 | 98 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 99 | | 70-130 |
| Dibromofluoromethane | 102 | | 102 | | 70-130 |

**Project Name:** RAYTHEON WAYLAND
**Project Number:** 0131386.01

**Lab Number:** L1104394
**Report Date:** 04/11/11

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1104394-01A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104394-01B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104394-02A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104394-02B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104394-03A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1104394-03B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104394 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| EPA | · Environmental Protection Agency. |
| LCS | · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | · Laboratory Control Sample Duplicate: Refer to LCS. |
| MDL | · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | · Matrix Spike Sample Duplicate: Refer to MS. |
| NA | · Not Applicable. |
| NC | · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | · Not Ignitable. |
| RL | · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |

***Terms***

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

***Data Qualifiers***

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| **P** | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| **Q** | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when |

| | | | |
|---|---|---|---|
| **Project Name:** | RAYTHEON WAYLAND | **Lab Number:** | L1104394 |
| **Project Number:** | 0131386.01 | **Report Date:** | 04/11/11 |

***Data Qualifiers***

the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** RAYTHEON WAYLAND **Lab Number:** L1104394
**Project Number:** 0131386.01 **Report Date:** 04/11/11

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons. )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil (*Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: EPA 524.2)

*Non-Potable Water* (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Department of Defense** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**Analytes Not Accredited by NELAP**
Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.

Serial_No:04111113:43

# CHAIN OF CUSTODY

PAGE 1 OF 1

D

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/4/11

ALPHA Job #: L1104394

## Client Information

Client: ERM

Address: 399 Boylston Street 6th floor Boston, MA

Phone: (617) 646-7800

Fax: (617) 247-6447

Email: jason.flatteny@erm.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flatteny

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/11/11 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program MA MCP Criteria GW-2

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: CVOCs (8021 by 8260)

SAMPLE HANDLING

Filtration ☐ Done ☐ Not needed ☐ Lab to do

Preservation ☐ Lab to do (Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | CVOCs (8021 by 8260) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 043914 1 | MW-203M-20110404-01 | 4/4/11 | 1400 | GW | SMC | 2 | | 2 |
| 2 | MW-204M-20110404-01 | | 1520 | | SMC | 2 | | 2 |
| 3 | DVP-001-20110404-01 | | 1111 | | SMC | 2 | | 2 |

Container Type: V

Preservative: B

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 4/4/11 1545 | [signature] | 4/4/11 1545 |
| [signature] | 4/4/11 1630 | [signature] | 4/4/11 1630 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104394

Instrument ID: Quimby.i  Calibration Date: 08-APR-2011  Time: 05:41

Lab File ID: 0408A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .34924 | .25614 | .1 | 27 | 20 | F |
| chloromethane | .35628 | .28958 | .1 | 19 | 20 | |
| vinyl chloride | .30181 | .29149 | .1 | 3 | 20 | |
| bromomethane | .22898 | .15543 | .1 | 32 | 20 | F |
| chloroethane | .20794 | .21332 | .1 | -3 | 20 | |
| trichlorofluoromethane | .42568 | .50993 | .1 | -20 | 20 | |
| ethyl ether | .12007 | .12756 | .05 | -6 | 20 | |
| acrolien | .02445 | .02327 | .05 | 5 | 20 | F |
| freon-113 | .29194 | .25061 | .1 | 14 | 20 | |
| acetone | 100 | 98.083 | .1 | 2 | 20 | |
| 1,1,-dichloroethene | .30271 | .3177 | .1 | -5 | 20 | |
| tert-butyl alcohol | .00951 | .00756 | .05 | 20 | 20 | F |
| iodomethane | .50617 | .40107 | .05 | 21 | 20 | F |
| methylene chloride | .30372 | .31396 | .1 | -3 | 20 | |
| carbon disulfide | .91586 | .86178 | .1 | 6 | 20 | |
| acrylonitrile | .0487 | .04675 | .05 | 4 | 20 | F |
| methyl tert butyl ether | .51963 | .4952 | .1 | 5 | 20 | |
| Halothane | .25477 | .25387 | .05 | 0 | 20 | |
| trans-1,2-dichloroethene | .34461 | .34998 | .1 | -2 | 20 | |
| Diisopropyl Ether | .81846 | .77081 | .05 | 6 | 20 | |
| vinyl acetate | .38582 | .36843 | .05 | 5 | 20 | |
| 1,1-dichloroethane | .58497 | .58479 | .2 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | .7021 | .62012 | .05 | 12 | 20 | |
| 2-butanone | .05505 | .04775 | .1 | 13 | 20 | F |
| 2,2-dichloropropane | .38987 | .34004 | .05 | 13 | 20 | |
| ethyl acetate | .11173 | .09457 | .05 | 15 | 20 | |
| cis-1,2-dichloroethene | .36598 | .39127 | .1 | -7 | 20 | |
| chloroform | .55517 | .57489 | .2 | -4 | 20 | |
| bromochloromethane | .13826 | .15054 | .05 | -9 | 20 | |
| tetrahydrofuran | 100 | 95.023 | .05 | 5 | 20 | |
| 1,1,1-trichloroethane | .50175 | .48178 | .1 | 4 | 20 | |
| 1,1-dichloropropene | .47777 | .48011 | .05 | 0 | 20 | |
| carbontetrachloride | .40299 | .37583 | .1 | 7 | 20 | |
| Tertiary-Amyl Methyl Ether | .59124 | .52414 | .05 | 11 | 20 | |
| 1,2-dichloroethane | .29658 | .31265 | .1 | -5 | 20 | |
| benzene | 1.4222 | 1.4243 | .5 | 0 | 20 | |
| trichloroethene | .35492 | .36277 | .2 | -2 | 20 | |
| 1,2-dichloropropane | .31236 | .30168 | .1 | 3 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104394

Instrument ID: Quimby.i  Calibration Date: 08-APR-2011  Time: 05:41

Lab File ID: 0408A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| bromodichloromethane | .34843 | .3437 | .2 | 1 | 20 | |
| 1,4-dioxane | .00121 | .00139 | .05 | -14 | 20 | F |
| dibromomethane | .12614 | .12872 | .05 | -2 | 20 | |
| 2-chloroethylvinyl ether | .10568 | .07853 | .05 | 26 | 20 | F |
| 4-methyl-2-pentanone | .05144 | .04568 | .1 | 11 | 20 | F |
| cis-1,3-dichloropropene | .449 | .36655 | .2 | 18 | 20 | |
| toluene | 1.1887 | 1.1329 | .4 | 5 | 20 | |
| trans-1,3-dichloropropene | .40626 | .30863 | .1 | 24 | 20 | F |
| 1,1,2-trichloroethane | .18806 | .18013 | .1 | 4 | 20 | |
| 2-hexanone | .10447 | .08562 | .1 | 18 | 20 | |
| 1,3-dichloropropane | .41055 | .40068 | .05 | 2 | 20 | |
| tetrachloroethene | .54918 | .56541 | .2 | -3 | 20 | |
| chlorodibromomethane | .26275 | .25032 | .1 | 5 | 20 | |
| 1,2-dibromoethane | .21528 | .20705 | .1 | 4 | 20 | |
| chlorobenzene | 1.3469 | 1.2374 | .5 | 8 | 20 | |
| 1,1,1,2-tetrachloroethane | .39146 | .34261 | .05 | 12 | 20 | |
| ethyl benzene | 2.4104 | 2.2863 | .1 | 5 | 20 | |
| p/m xylene | .97612 | .93241 | .1 | 4 | 20 | |
| o xylene | .96041 | .90296 | .3 | 6 | 20 | |
| styrene | 1.5385 | 1.4767 | .31 | 4 | 20 | |
| isopropylbenzene | 2.4862 | 2.2873 | .1 | 8 | 20 | |
| trans-1,4-dichloro-2-butene | .03888 | .03802 | .05 | 2 | 20 | F |
| bromoform | .23103 | .22064 | .1 | 5 | 20 | |
| 1,1,2,2,-tetrachloroethane | .38882 | .39227 | .3 | -1 | 20 | |
| 1,2,3-trichloropropane | .302 | .30305 | .05 | 0 | 20 | |
| n-propylbenzene | 4.2789 | 4.1235 | .05 | 4 | 20 | |
| bromobenzene | .85391 | .89606 | .05 | -5 | 20 | |
| 4-ethyltoluene | 2.1733 | 1.8324 | .05 | 16 | 20 | |
| 1,3,5-trimethybenzene | 3.1161 | 2.8671 | .05 | 8 | 20 | |
| 2-chlorotoluene | 2.8216 | 2.7558 | .05 | 2 | 20 | |
| 4-chorotoluene | 2.6385 | 2.6115 | .05 | 1 | 20 | |
| tert-butylbenzene | 2.7401 | 2.5567 | .05 | 7 | 20 | |
| 1,2,4-trimethylbenzene | 3.1459 | 2.9953 | .05 | 5 | 20 | |
| sec-butylbenzene | 3.7202 | 3.4621 | .05 | 7 | 20 | |
| p-isopropyltoluene | 3.1690 | 3.0305 | .05 | 4 | 20 | |
| 1,3-dichlorobenzene | 1.7564 | 1.7311 | .6 | 1 | 20 | |
| 1,4-dichlorobenzene | 1.7757 | 1.7649 | .5 | 1 | 20 | |
| n-butylbenzene | 3.0962 | 2.7697 | .05 | 11 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104394

Instrument ID: Quimby.i  Calibration Date: 08-APR-2011  Time: 05:41

Lab File ID: 0408A03  Init. Calib. Date(s): 07-MAR-2  07-MAR-2

Sample No: 8260 CCAL  Init. Calib. Times : 08:32  12:13

| Compound | $\overline{RRF}$ | RRF | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| 1,2,4,5-tetramathylbenezene | 1.0900 | .91535 | .05 | 16 | 20 |
| 1,2-dichlorobenzene | 1.4995 | 1.5018 | .4 | 0 | 20 |
| p-diethylbenzene | 1.5484 | 1.3278 | .05 | 14 | 20 |
| 1,2-dibromo-3-chloropropane | .05659 | .05053 | .05 | 11 | 20 |
| 1,3,5-trichlorobenzene | 1.0666 | .91426 | .01 | 14 | 30 |
| 1,2,4-trichlorobenzene | .83258 | .7538 | .2 | 9 | 20 |
| hexachlorobutadiene | .4051 | .3705 | .05 | 9 | 20 |
| naphthalene | 1.3212 | 1.1451 | .05 | 13 | 20 |
| 1,2,3-trichlorobenzene | .61394 | .53533 | .05 | 13 | 20 |
| dibromofluoromethane | .23183 | .2374 | .05 | -2 | 20 |
| 1,2-dichloroethane-d4 | .19112 | .1921 | .05 | -1 | 20 |
| toluene-d8 | 1.2966 | 1.2670 | .05 | 2 | 20 |
| 4-bromofluorobenzene | .84277 | .83639 | .05 | 1 | 20 |

FORM VII MCP-8260-10

# *Appendix D*
# *IESI Work Summary*

Innovative Engineering Solutions, Inc.
25 Spring Street • Walpole, Massachusetts 02081-4301(508) 668-0033 • fax (508) 668-517

# WORK SUMMARY FOR ROS REPORT

**Date:** April 18, 2011

Innovative Engineering Solutions Inc. (IESI) has prepared this work summary outlining the bioremediation activities (at the northern area) between October 15, 2010 and April 5, 2011 at the former Raytheon, facility located in Wayland, Massachusetts. This summary provides sufficient detail to be incorporated into a remedy operation status report (ROS). The following activities have been performed during this time period:

1. System Operation;
2. Sampling and Analysis to Evaluate Progress;
3. Injection Well Development;
4. Drilling and Installation of Three Additional Wells; and,
5. Formulation of Plans to Expand the System;

These activities are described in greater detail below.

## 1. System Operation

The enhanced anaerobic dechlorination (EAD) groundwater recirculation program began in October 2010. The EAD program involves recirculation of groundwater within a test area to distribute the added electron donor. As shown in Figure 1, groundwater is extracted from wells REW-1 and REW-2 and is injected in wells RIW-1, RIW-2 and RIW-3. The REW and RIW series wells (installed in August and September 2010) are 4 inches in diameter and are drilled to an approximate depth of 45 feet. V cut 0.010" slot-screen (PVC) is located at approximate depths of 15 to 45 feet below ground surface. The system operated for approximately 68 days during the fall of 2010 and recirculated approximately 263,550 gallons of groundwater (approximately 1.4 pore volumes of the area to be treated). During the fall of 2010, approximately 31 drums (combined) of vegetable oil (10), alcohol (18), pH buffers (3) and inorganic minerals (400 lbs. of di-ammonium phosphate) were recirculated with the groundwater. The additives were added during two feeding events (October and December), but the groundwater was recirculated continuously. Table 1 provides a summary of amendment addition amounts and dates.

The recirculation system is powered by solar panels and all interconnecting piping is currently above ground hose. The system was shut down during the winter months (December 26 to March 17). Groundwater recirculation resumed on March 17, 2011. Between the time period of March 17, 2011 and April 5, 2011, approximately 117,000 gallons of groundwater have been recirculated (recirculation rates have increased due to higher water elevations and well development).

## 2. Sampling and Analysis to Evaluate Progress

Groundwater samples have been collected to evaluate the progress of the program. Three wells (REW-1, REW-2 and MW-562) have been sampled periodically to gauge the distribution of added electron donor and inorganic minerals. A larger group of wells will be sampled during the semi-annual groundwater sampling events.

The baseline sampling event was conducted on October 20, 2010 using low flow sampling methods. Groundwater sampling logs can be found in Attachment D. Collected samples were analyzed (by Bioremediation and Treatability

Center {BTC} of Walpole, MA) for a variety of biogeochemical parameters (dissolved gases, anions, organic acids, TOC, ammonia, ortho-phosphate, total iron, total manganese, dissolved hydrogen and dissolved carbon dioxide) in addition to VOCs. VOC analysis was conducted by Groundwater Analytical Labs of Buzzards Bay, MA as well as wells as BTC. Correlation between the BTC and Groundwater Analytical Labs' results is excellent (Tables 2 to 4). BTC is not a certified lab for VOCs and thus its results are considered screening only. The baseline data indicates that subsurface conditions are mildly anaerobic with little residual TOC, ammonia or ortho-phosphate in the groundwater. VOC concentrations ranged between 230 ug/L (well REW-1) and 435 ug/L (well MW-562).

Groundwater from the three wells was sampled approximately on a monthly basis to gauge progress and aid in process modifications that may be necessary. Samples were collected on November 18, 2010, December 2, 2010 and March 30, 2011 from all three wells. A sample was collected from well MW-562 only on February 1, 2011. Analytical data is presented in Attachment A and is graphed in Attachment B. Each page in Attachment B is for a single well and is made up of four separate graphs to allow a simultaneous evaluation of biogeochemical and CVOC data.

## 3. Injection Well Development

In December 2010, 13 of the IW series well were redeveloped so as to evaluate their potential use for expanding the recirculation system. Wells RIW-1 to RIW-3 and REW-1 and REW-2 were also re-developed. All wells were developed by Waterra brand pumps that induce a surging type extraction from the well. Development groundwater was initially stored in a 500 gallon tank to settle silt, prior to re-injection of settled groundwater into the re-injection gallery. Table 5 provides a summary of the development activities. The well development took place on cold days in mid December and the silt immediately froze. Approximately 12 inches (roughly 50-75 gallons) of settled silt has been allowed to thaw and will be appropriately handled this spring (tested and spread on site if clean). In summary, the IW series wells may be suitable for injection, but are too silty to be converted to extraction wells.

## 4. Drilling and Installation of Three Additional Wells

In December 2010 three new wells (REW-3, REW-4, REW-4) were installed at the site (see Figure 2 for well location and Attachment C for well construction logs). All the new wells are 4 inches in diameter and are drilled (sonic drilling by Maher Drilling) to an approximate depth of 45 feet. V cut 0.010" slot-screen (PVC) is located at approximate depths of 15 to 45 feet below ground surface. Well construction logs are attached to this memorandum. Drill cuttings were drummed and analyzed for VOCs. Analytical data from each drum is also attached to this memorandum. No VOCs were detected in any of the soil samples. As such, soil will be landscaped on-site in April or May 2011, once it has thawed.

The three wells will be developed during the spring of 2011.

## 5. Plans to Expand the System

The success of the recirculation program has encouraged Raytheon to move forward with a planned expansion during 2011. The proposed work elements are as follows:

1. Refinement of the extent of residual contamination in the former source area. This work will enable us to best locate additional injection infrastructure. Work will be conducted using a Geoprobe/hydropunch rig to

sample groundwater in the area shown in Figure 2. Figure 2 shows the injection system at an assumed location, but actual location will be dependent upon the results of planed Geoprobe/hydropunch investigation work.

2. Installation of the injection system: the bioenhancement system will include one injection chamber well system (ICW; made up of one injection chamber and three injection wells) to receive recirculated groundwater and additives. Figures 3 and 4 provides a schematic of the proposed ICW system which consists of several vertical injection wells that are interconnected through an underground holding chamber (used for septic and stormwater drainage/infiltration).

3. Groundwater is expected to be extracted from wells REW-4, REW-5 and REW-1. Groundwater is expected to be injected into wells RIW-1, RIW-2, RIW-3, REW-2, REW-3, the new ICW system (including RIW-4, RIW-5 and RIW-6). Some variation in extraction and injection well selection may occur based on well yield. Other IW series wells may also be utilized.

Tables

Table 1: Summary of Additives
Table 2: Summary of Analytical Data at Well MW-562
Table 3: Summary of Analytical Data at Well REW-1
Table 4: Summary of Analytical Data at Well REW-2
Table 5: Well Development Summary, Fall 2010

Figures

Figure 1: Existing Wells and Pipe at Current Remediation area
Figure 2: Proposed Injection and Infiltration Plan
Figure 3: Proposed Injection Well Infiltration Concept
Figure 4: Proposed Injection Well and Infiltration Chamber Detail

Attachments

Attachment A: Analytical Data
Attachment B: Well Analytical Data Tracking Graphs
Attachment C: Well Construction Logs
Attachment D: Well Sampling Logs

# Tables

**Table 1 Summary of Additive**
**Former Raytheon, Wayland Facility**

| | | Estimated Weight |
|---|---|---|
| October and December 2010 | 10 drum Vegetable Oil | 4,000 lbs |
| | 18 drums IPA | 8,400 lbs |
| | 400 lbs. DAP | 400 lbs. |
| | 3 drums 50% potassium hydroxide | 1,400 lbs |

IPA- Isopropyl alcohol
DAP- diammonium phosphate

**Table 2- Summary of Analytical Data at Well MW-562**
**Former Raytheon Facility, Wayland MA**

| Lab | | Baseline BTC | Baseline GW Analytical | BTC | BTC | BTC | BTC |
|---|---|---|---|---|---|---|---|
| **Sample ID** | | | **MW-562** | **MW-562** | **MW-562** | **MW-562** | **MW-562** |
| **Date Sampled** | | **10/20/2010** | **10/20/10** | **18-Nov** | **2-Dec** | **26-Jan** | **30-Mar** |
| Methane | µg/L | 255 | | 301 | 185 | 79 | 73 |
| Ethene | µg/L | 6 | | 6 | 5 | 2 | 1.5 |
| Ethane | µg/L | 2 | | 3 | 2 | <0.3 | 0.4 |
| Vinyl Chloride | µg/L | 3 | 12 | <2 | 12 | 11 | 8 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |
| 1,1-DCE | µg/L | <2 | <2 | <2 | <2 | 2 | <2 |
| 1,1-DCA | µg/L | <3 | <3 | <3 | <3 | <3 | <3 |
| 1,2-cDCE | µg/L | 98 | 93 | 162 | 147 | 1308 | 1085 |
| 1,1,1-TCA | µg/L | 5 | <2 | <3 | <3 | <3 | <3 |
| TCE | µg/L | 351 | 310 | 760 | 699 | 6 | 25 |
| PCE | µg/L | 28 | 20 | 33 | 39 | <10 | 16 |
| | | | | | | | |
| Chloride | mg/L | 35 | | 32.8 | 28 | 60 | 24 |
| Nitrate | mg/L | <1 | | <1 | <1 | <1 | <1 |
| Sulfate | mg/L | 43 | | 42 | 35 | 23 | 4 |
| Lactate | mg/L | <1 | | <1 | 7 | <1 | <1 |
| Acetate | mg/L | <1 | | <1 | 7 | 8 | 12 |
| Propionate | mg/L | <1 | | <1 | <1 | <1 | <1 |
| Butyrate | mg/L | <1 | | <1 | <1 | <1 | 6 |
| Alkalinity | mg/L | 100 | | 120 | 120 | 160 | 240 |
| Manganese | mg/L | 0.60 | | na | <0.12 | na | na |
| NH3-N | mg/L | 0.04 | | <0.02 | 0.02 | 0.02 | 33 |
| PO4 | mg/L | 0.15 | | 0.1 | 0.06 | 276 | 152 |
| Sulfide | mg/L | na | | na | na | na | na |
| Total Iron | mg/L | 7.45 | | na | 7.55 | na | na |
| COD | mg/L | na | | na | na | na | na |
| TOC | mg/L | 2.1 | | 4.0 | 453 | 146 | 708 |
| pH | pH units | 6.50 | | 6.7 | 6.47 | 6.48 | 7.2 |
| H2 headspace | µM | 19.0 | | na | <1 | <3.4 | na |
| CO2 | mg/L | 24 | | na | 38 | na | na |

**Table 3- Summary of Analytical Data at Well REW-1**
**Former Raytheon Facility, Wayland MA**

**Project** **Raytheon, Wayland, MA**

| **Lab** | | **BTC** | **GW Analytical** | **BTC** | **BTC** | **BTC** |
|---|---|---|---|---|---|---|
| Sample ID<br>Date Sampled | | **18-Oct**<br>**REW-1** | **18-Oct**<br>**REW-1** | **18-Nov**<br>**REW-1** | **2-Dec**<br>**REW-1** | **3/30/2011**<br>**REW-1** |
| Methane | µg/L | 3 | | 3 | 333 | 160 |
| Ethene | µg/L | <0.3 | | <0.3 | 4 | 1.6 |
| Ethane | µg/L | <0.3 | | <0.3 | 1 | 0.3 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | 17 | 10 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| 1,1-DCE | µg/L | <2 | <2 | <2 | 2 | <2 |
| 1,1-DCA | µg/L | <3 | <3 | <3 | <3 | <3 |
| 1,2-cDCE | µg/L | <3 | 2 | <3 | 226 | 408 |
| 1,1,1-TCA | µg/L | 4 | <2 | <3 | <3 | <3 |
| TCE | µg/L | 26 | 27 | 114 | 2,845 | 1669 |
| PCE | µg/L | <10 | 1 | <10 | 78 | 59 |
| | | | | | | |
| Chloride | mg/L | 4.1 | | 2.9 | 30 | 25 |
| Nitrate | mg/L | <1 | | 2.0 | <1 | <1 |
| Sulfate | mg/L | 19 | | 13 | 43 | 28 |
| Lactate | mg/L | <1 | | <1 | <1 | <1 |
| Acetate | mg/L | <1 | | <1 | <1 | <1 |
| Propionate | mg/L | <1 | | <1 | <1 | <1 |
| Butyrate | mg/L | <1 | | <1 | <1 | <1 |
| Alkalinity | mg/L | 80 | | 60 | 120 | 140 |
| Manganese | mg/L | 1.1 | | na | <0.12 | na |
| NH3-N | mg/L | 0.0 | | <0.02 | 0.03 | <0.02 |
| PO4 | mg/L | 0.1 | | <0.05 | 0.08 | 5.50 |
| Sulfide | mg/L | na | | na | na | na |
| Total Iron | mg/L | 2.2 | | na | 7.4 | na |
| COD | mg/L | na | | na | na | na |
| TOC | mg/L | 1.1 | | 1.8 | 4.3 | 98.2 |
| pH | pH units | 6.5 | | 6.4 | 6.67 | 6.84 |
| H2 headspace | µM | <1 | | na | <1 | na |
| CO2 | mg/L | 24.7 | | na | 26.0 | na |

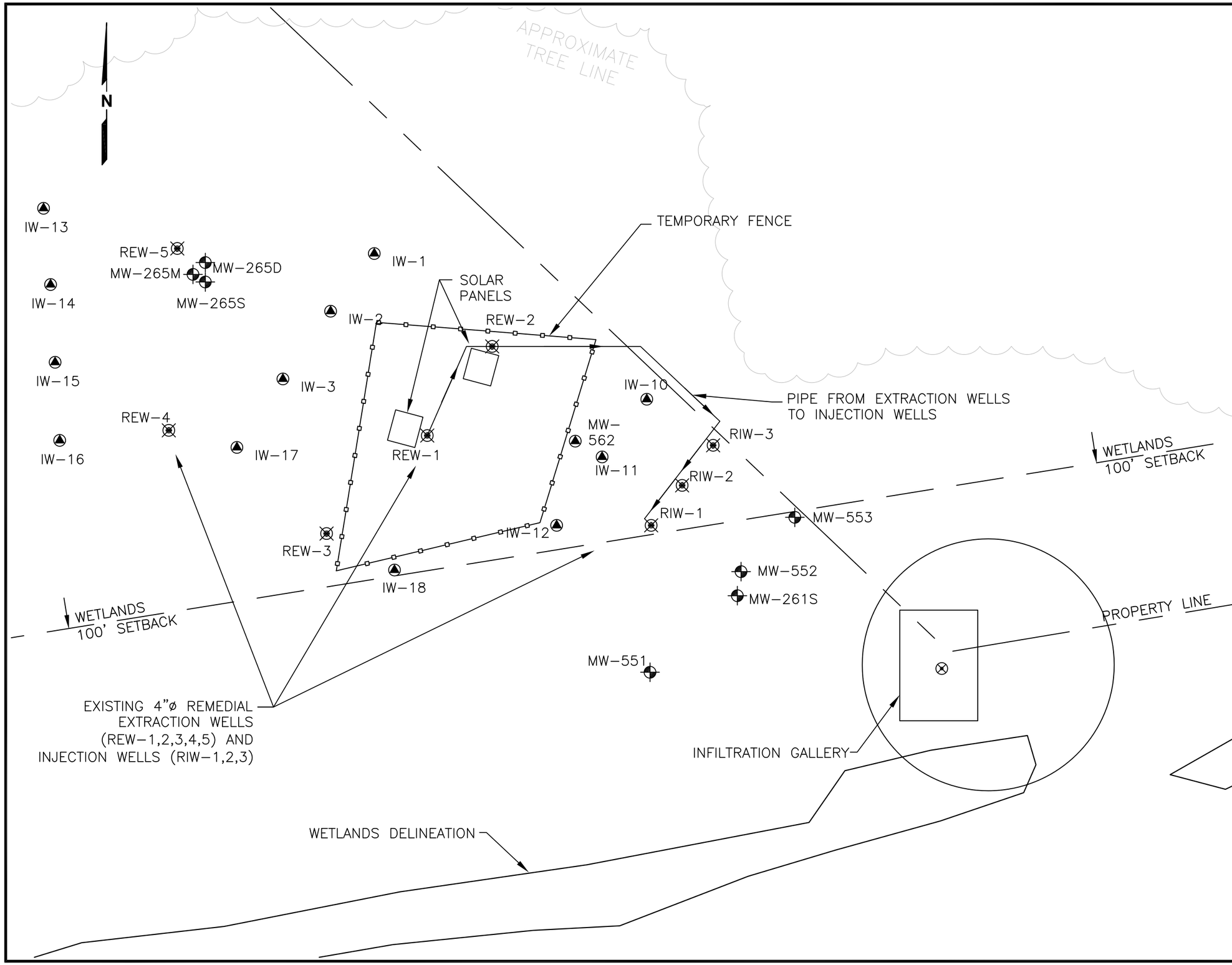
**Table 4- Summary of Analytical Data at Well REW-1**
**Former Raytheon Facility, Wayland MA**

| | | BTC | GW Analytical | BTC | BTC | BTC |
|---|---|---|---|---|---|---|
| **Sample ID** | | **REW-2** | **REW-2** | **REW-2** | **REW-2** | **REW-2** |
| **Date Sampled** | | **18-Oct** | **18-Oct** | **18-Nov** | **2-Dec** | **30-Mar** |
| Methane | µg/L | 4 | | 9 | 28 | 18.0 |
| Ethene | µg/L | 1 | | 1 | 1 | 1.1 |
| Ethane | µg/L | 1 | | <0.3 | <0.3 | <0.3 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 | 9 | 7 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 | <2 |
| 1,1-DCE | µg/L | <2 | <2 | <2 | <2 | <2 |
| 1,1-DCA | µg/L | <3 | <3 | <3 | <3 | <3 |
| 1,2-cDCE | µg/L | 24 | 23 | 70 | 96 | 158 |
| 1,1,1-TCA | µg/L | 5 | <2 | <3 | <3 | <3 |
| TCE | µg/L | 233 | 220 | 259 | 387 | 221 |
| PCE | µg/L | <10 | 6 | 17 | 21 | 17 |
| | | | | | | |
| Chloride | mg/L | 7.9 | | 14.2 | 19 | 24 |
| Nitrate | mg/L | <1 | | 1.1 | 1.0 | <1 |
| Sulfate | mg/L | 44.1 | | 31.6 | 30 | 4 |
| Lactate | mg/L | <1 | | <1 | <1 | <1 |
| Acetate | mg/L | <1 | | <1 | <1 | <1 |
| Propionate | mg/L | <1 | | <1 | <1 | <1 |
| Butyrate | mg/L | 4.9 | | <1 | <1 | <1 |
| Alkalinity | mg/L | 100.0 | | 80.0 | 60 | 100 |
| Manganese | mg/L | 0.7 | | na | <0.12 | na |
| NH3-N | mg/L | 0.0 | | 0.3 | <0.02 | <0.02 |
| PO4 | mg/L | 0.2 | | 0.1 | 0.06 | 0.06 |
| Sulfide | mg/L | na | | na | na | na |
| Total Iron | mg/L | 1.2 | | na | 5.2 | na |
| COD | mg/L | na | | na | na | na |
| TOC | mg/L | 1.3 | | 1.6 | 1.6 | 44.6 |
| pH | pH units | 6.7 | | 6.5 | 6.59 | 6.73 |
| H2 headspace | µM | <1 | | na | <1 | na |
| CO2 | mg/L | 11.3 | | na | 30.0 | na |

| Table 5 Well Development Summary, Fall, 2010 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Former Raytheon Facility, Wayland, MA | | | | | | | |
| **Well** | **Diameter** | **Total depth** | **Screened Interval** | **Filter Sand** | **~Yield (gpm)** | **~Volume Removed (gal)** | **Comments** |
| **RIW-1** | 4 | 45 | 15-45 | #0 | 2 | 250 | Cloudy |
| **RIW-2** | 4 | 45 | 15-45 | #0 | 2 | 250 | Turbid |
| **RIW-3** | 4 | 45 | 15-45 | #0 | 2 | 250 | Turbid |
| **REW-1** | 4 | 45 | 15-45 | #0 | 2.5 | 500 | Turbid |
| **REW-2** | 4 | 45 | 15-45 | #0 | 1.8 | 450 | Cloudy |
| **IW-1** | 4 | 45 | 35-45 | #2 | 1 | 100 | Very turbid |
| **IW-2** | 4 | 47 | 37-47 | #2 | 1.2 | 100 | Very turbid |
| **IW-3** | 4 | 45 | 35-45 | #2 | 1 | 100 | Very turbid |
| **IW-4** | 4 | 65 | 55-65 | #2 | 1.5 | 180 | Very turbid |
| **IW-5** | 4 | 65 | 55-65 | #2 | 0.9 | 100 | Very turbid |
| **IW-6** | 4 | 65 | 55-65 | #2 | 2 | 200 | Turbid |
| **IW-7** | 4 | 65 | 55-65 | #2 | 1 | 100 | Very turbid |
| **IW-8** | 4 | 65 | 55-65 | #2 | 1.3 | 100 | Very turbid |
| **IW-9** | 4 | 65 | 55-65 | #2 | 2 | 200 | Very turbid |
| **IW-10** | 2 | 30 | 20 to 30 | #0 | NA | | |
| **IW-11** | 2 | 30 | 20 to 30 | #0 | <1 | | Very low flow, heavy silt |
| **IW-12** | 2 | 30 | 20 to 30 | #0 | NA | | |
| **IW-13** | 2 | 50 | 40-50 | #0 | 3 | 250 | Turbid |
| **IW-14** | 2 | 50 | 40-50 | #0 | 3.5 | 325 | Turbid |
| **IW-15** | 2 | 50 | 40-50 | #0 | 4 | 350 | Turbid |
| **IW-16** | 2 | 50 | 40-50 | #0 | 4 | 350 | Turbid |
| **IW-17** | 2 | 45 | 35-45 | #0 | NA | | |
| **IW-18** | 2 | 35 | 25-35 | #0 | NA | | |
| Total approximate volume infiltrated into gallery: | | | | | | **4155** | |

NA- Not applicable, not developed

# Figures




## LEGEND

- MONITORING WELL / CLUSTER
- INJECTION WELL (RIW-2)
- INJECTION WELL
- EXTRACTION WELL (REW-1)
- INFILTRATION GALLERY
- I INJECTION SEGMENT
- E EXTRACTION SEGMENT

BASE MAP SOURCE: "FIGURE 5A NORTHERN AREA CVOC CONCENTRATIONS – FEBRUARY 2010"; PREPARED BY ERM

0 30' 60'
SCALE IN FEET

Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033

TITLE
**EXISTING WELLS AND PIPE AT CURRENT REMEDIATION AREA**

SITE
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT
RAYTHEON CORPORATION

| DRAWN | CHECKED | FILENAME | DATE | FIGURE |
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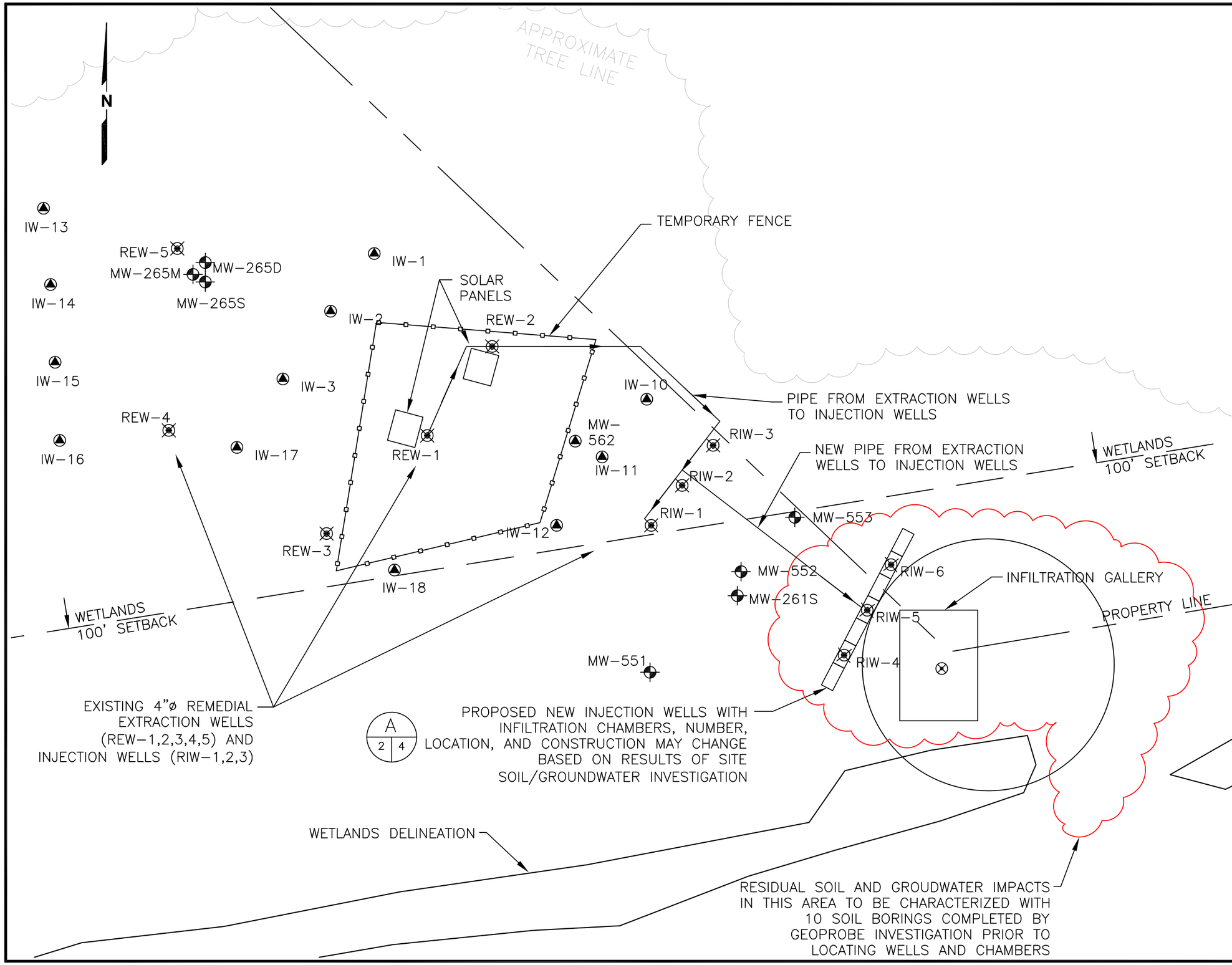


## LEGEND

- MONITORING WELL / CLUSTER
- INJECTION WELL (RIW-2)
- INJECTION WELL
- EXTRACTION WELL (REW-1)
- INFILTRATION GALLERY
- I — INJECTION SEGMENT
- E — EXTRACTION SEGMENT

BASE MAP SOURCE: "FIGURE 5A NORTHERN AREA CVOC CONCENTRATIONS – FEBRUARY 2010"; PREPARED BY ERM

0 30' 60'
SCALE IN FEET


iesi
Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033


TITLE
**PROPOSED INJECTION WELL AND INFILTRATION CHAMBER PLAN**

SITE
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT
RAYTHEON CORPORATION

| DRAWN | CHECKED | FILENAME | DATE | FIGURE |
|---|---|---|---|---|
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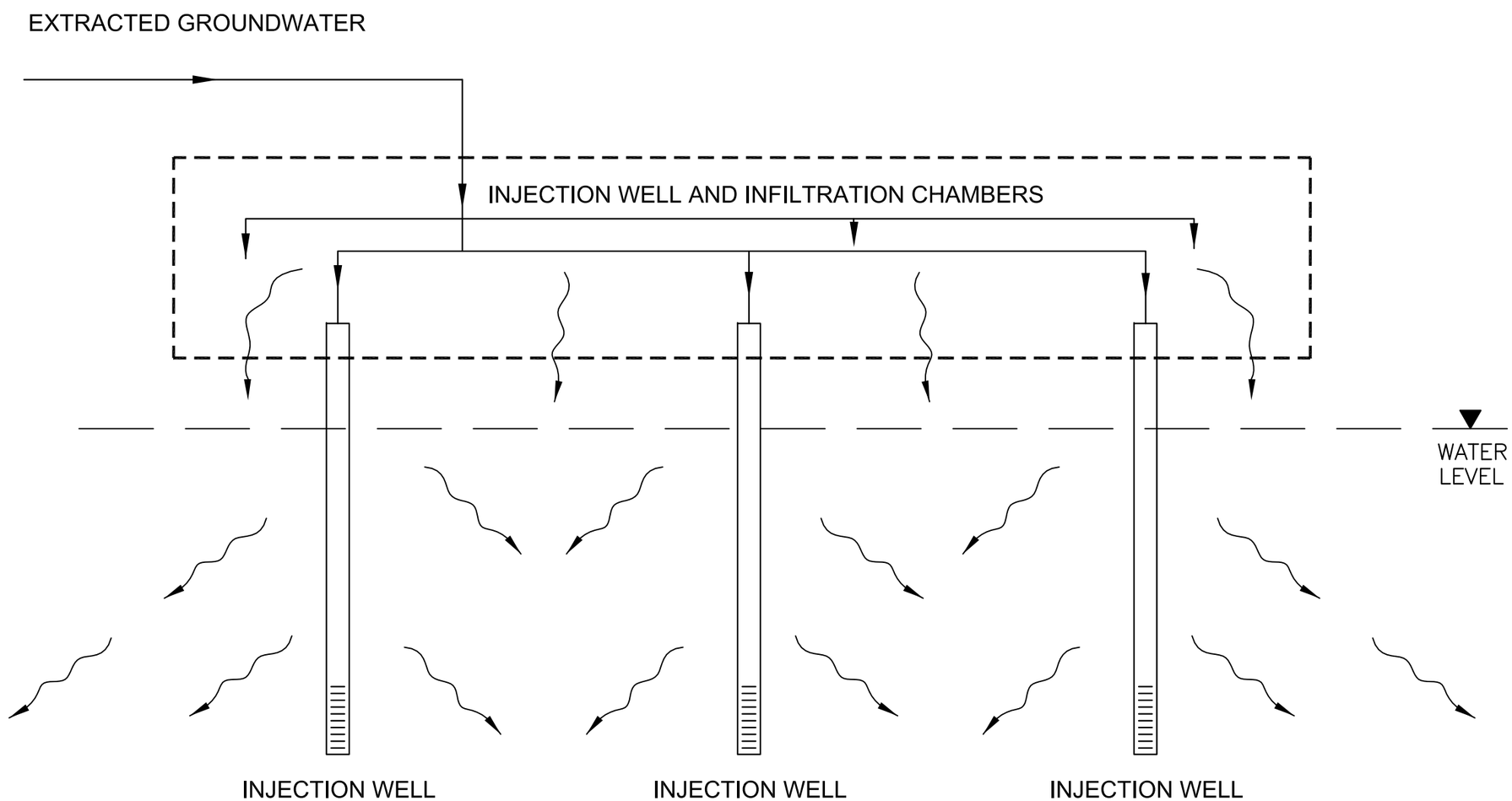


Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033

TITLE

**PROPOSED INJECTION WELL INFILTRATION CHAMBER CONCEPT**

SITE

FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT

RAYTHEON CORPORATION

| DRAWN | CHECKED | FILENAME | DATE | FIGURE |
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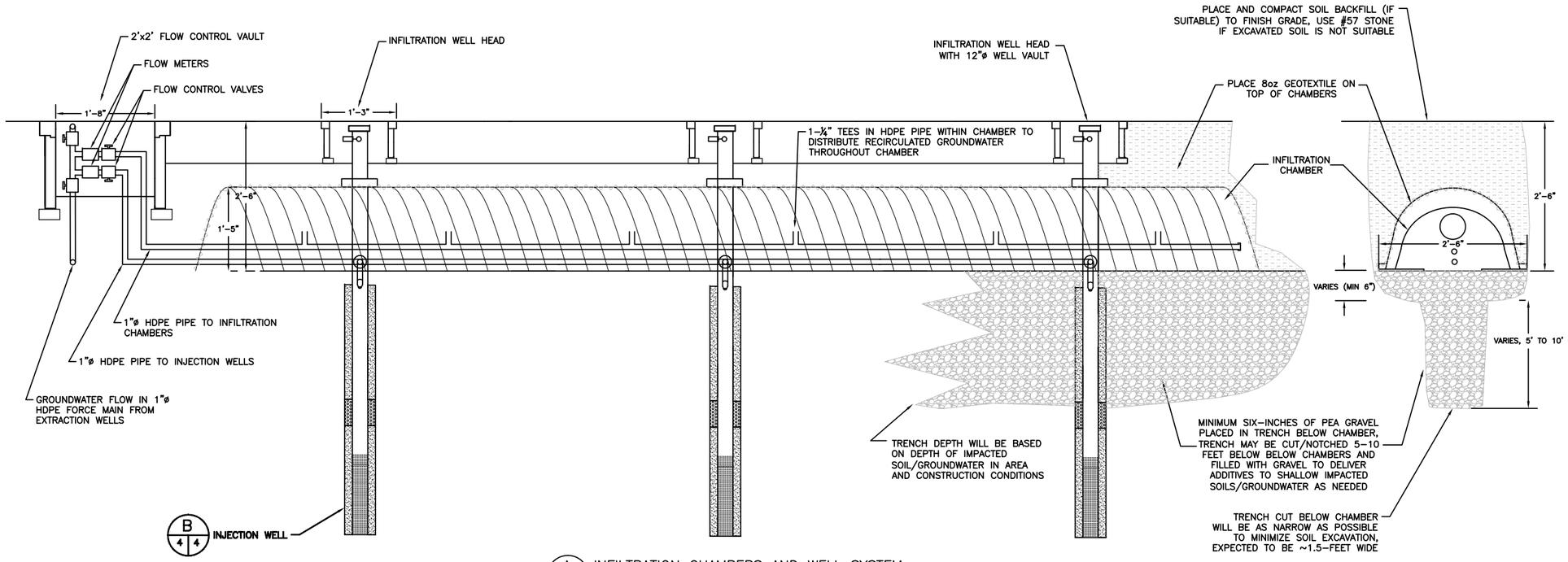
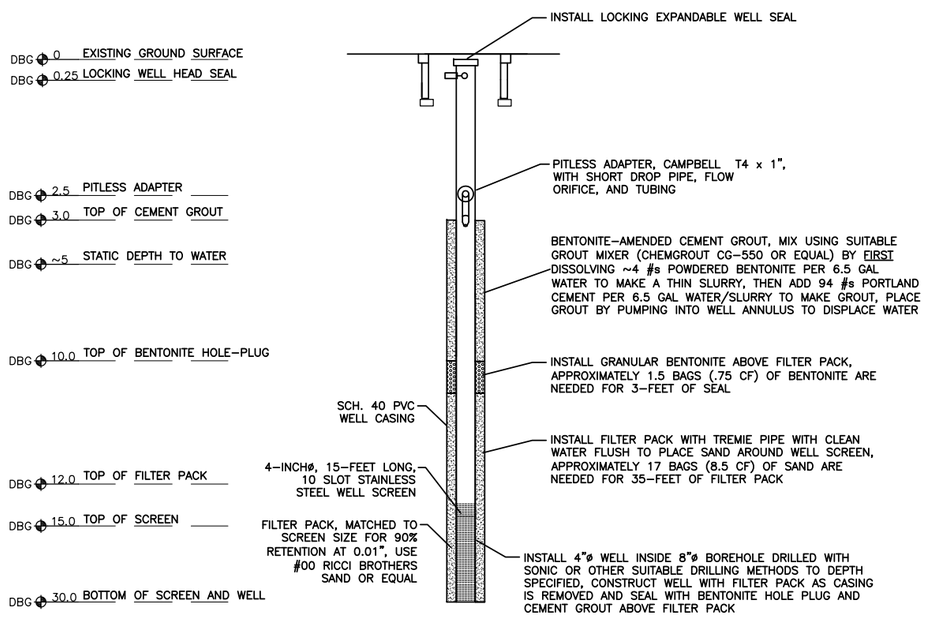



A 2 4 INFILTRATION CHAMBERS AND WELL SYSTEM
(NOT TO SCALE)




B 4 4 INJECTION WELL CONSTRUCTION
(TYPICAL OF 3, NOT TO SCALE)

NOTES:

1) WELL AND INFILTRATION CHAMBER DEPTH AND CONSTRUCTION MAY CHANGE BASED ON THE RESULTS OF THE SOIL INVESTIGATION.

2) GROUNDWATER IS RECIRCULATED CONTINUOUSLY, WITH ~75% GOING INTO THE THREE WELLS, AND ~25% INTO THE CHAMBERS, FLOW IS SPLIT AND CONTROLLED AT THE FLOW CONTROL VAULT.

3) AMENDMENTS ARE ADDED ON A BATCH BASIS TO THE WELLS AND CHAMBERS.

4) THE WELLS INJECT AMENDED AND RECIRCULATED GROUNDWATER INTO THE DEEP AQUIFER. THE CHAMBERS ALLOW FOR THE INFILTRATION OF AMENDMENTS AND GROUNDWATER THROUGH SHALLOW IMPACTED SOILS.

5) THE DEPTH OF THE TRENCHES BELOW THE CHAMBERS MAY BE INCREASED TO TARGET SHALLOW IMPACTED SOILS AND GROUNDWATER. TRENCH CONSTRUCTION DEPTH MAY BE LIMITED, HOWEVER, BY SOIL STABILITY. GRAVEL (#57 STONE) WILL BE PLACED IN THE CUT TRENCH BELOW THE CHAMBERS TO ALLOW INFILTRATION OF AMENDMENTS TO THE IMPACTED SOILS.

6) A HIGH-LEVEL SHUT-OFF FLOAT SWITCH IS INSTALLED TO SHUT DOWN THE WELL PUMPS IN THE CASE OF A HIGH WATER LEVEL TO PREVENT OVERFLOW.


Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033


TITLE
**PROPOSED INJECTION WELL AND INFILTRATION CHAMBER DETAIL**

SITE
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT
RAYTHEON CORPORATION

| DRAWN | CHECKED | FILENAME | DATE | FIGURE |
|---|---|---|---|---|
| DF | SAF | RAYTHEON WAYLAND | FEB 2011 | 4 |

# **Attachment A**

Analytical Data

**Groundwater Analytical, Inc.**
**P.O.Box 1200**
**228 Main Street**
**Buzzards Bay, MA 02532**

**Telephone: (508) 759-4441**
**FAX: (508) 759-4475**

# e-mail

| | | | |
|---|---|---|---|
| To: | Sami Fam | From: | e-mail reporting GWA |
| | Innovative Engineering | Pages: | 16 |
| e-mail: | s fam@iesionline.com | Date: | 11/04/2010 15:09:47 |
| Re: | 137315 | CC: | |

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply

● Comments:

Final Project Report for Wayland Raytheon, Lab ID 137315, Received 10-22-10

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**Confidential**

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

November 4, 2010

Mr. Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole, MA 02081

**LABORATORY REPORT**

Project: **Wayland Raytheon**
Lab ID: **137315**
Received: **10-22-10**

Dear Sami:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

GROUNDWATER ANALYTICAL

# Sample Receipt Report

| | | | | | |
|---|---|---|---|---|---|
| Project: | **Wayland Raytheon** | Delivery: | **GWA Courier** | Temperature: | **3.0ºC** |
| Client: | **Innovative Engineering Solutions, Inc.** | Airbill: | **n/a** | Chain of Custody: | **Present** |
| Lab ID: | **137315** | Lab Receipt: | **10-22-10** | Custody Seal(s): | **n/a** |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137315-1 | MW101 | | Aqueous | 10/22/10 13:00 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1306613 | 40 mL VOA Vial | n/a | n/a | HCL | n/a | n/a | n/a | | |
| C1306614 | 40 mL VOA Vial | n/a | n/a | HCL | n/a | n/a | n/a | | |
| C1306615 | 40 mL VOA Vial | n/a | n/a | HCL | n/a | n/a | n/a | | |

GROUNDWATER ANALYTICAL

# Data Certification

| | | | |
|---|---|---|---|
| Project: | **Wayland Raytheon** | Lab ID: | **137315** |
| Client: | **Innovative Engineering Solutions, Inc.** | Received: | **10-22-10 18:45** |

**Mass DEP Analytical Protocol Certification Form**

Project Location: **n/a** MA DEP RTN: **n/a**

**This Form provides certifications for the following data set:**

EPA 8260B: 137315-1

Sample Matrices: Groundwater/Surface (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

**CAM Protocol** (check all that apply below):

| | | | | | |
|---|---|---|---|---|---|
| 8260 VOC CAM II A (X) | 7470/7471 Hg CAM III B ( ) | Mass DEP VPH CAM IV A ( ) | 8081 Pesticides CAM V B ( ) | 7196 Hex Cr CAM VI B ( ) | Mass DEP APH CAM IX A ( ) |
| 8270 SVOC CAM II B ( ) | 7010 Metals CAM III C ( ) | Mass DEP EPH CAM IV B ( ) | 8151 Herbicides CAM V C ( ) | 8330 Explosives CAM VIII A ( ) | TO-15 VOC CAM IX B ( ) |
| 6010 Metals CAM III A ( ) | 6020 Metals CAM III D ( ) | 8082 PCB CAM V A ( ) | 9012 Cyanide/PAC CAM VI A ( ) | 6860 Perchlorate CAM VIII B ( ) | |

**An affirmative response to questions A through F are required for "Presumptive Certainty" status.**

| | | |
|---|---|---|
| A. | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratoratory, and prepared/analyzed within method holding times? | Yes |
| B. | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | Yes |
| C. | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | Yes |
| D. | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? | Yes |
| E. | VPH, EPH and APH methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | n/a |
| F. | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | Yes |

**Responses to questions G, H and I below are required for "Presumptive Certainty" status.**

| | | |
|---|---|---|
| G. | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | No |

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.**

| | | |
|---|---|---|
| H. | Were all QC performance standards specified in the CAM protocol(s) achieved? | Yes |
| I. | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | Yes |

**All negative responses must be addressed in an attached laboratory narrative.**

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

| | | | |
|---|---|---|---|
| Signature: | | Position: | Operations Manager |
| Printed Name: | Eric H. Jensen | Date: | 11-04-10 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **MW101** | Matrix: | **Aqueous** |
| Project: | **Wayland Raytheon** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137315-1** | QC Batch ID: | **VM10-1169-W** |
| Sampled: | **10-22-10 13:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-22-10 18:45** | Sample Volume: | **5 mL** |
| Analyzed: | **11-03-10 15:17** | Dilution Factor: | **5** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 3 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 3 |
| 75-01-4 | Vinyl Chloride | **12** | | ug/L | 3 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 3 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 3 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 3 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 10 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 3 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 25 |
| 67-64-1 | Acetone | BRL | | ug/L | 50 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 25 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 13 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 13 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 3 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 3 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 3 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 3 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **93** | | ug/L | 3 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 25 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 3 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 25 |
| 67-66-3 | Chloroform | BRL | | ug/L | 3 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 3 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 3 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 3 |
| 71-43-2 | Benzene | BRL | | ug/L | 3 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 3 |
| 79-01-6 | Trichloroethene | **310** | | ug/L | 3 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 3 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 3 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 3 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 2,500 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 2 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 25 |
| 108-88-3 | Toluene | BRL | | ug/L | 3 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 2 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 3 |
| 127-18-4 | Tetrachloroethene | **20** | | ug/L | 3 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 3 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 25 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 3 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 3 |
| 108-90-7 | Chlorobenzene | **17** | | ug/L | 3 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 3 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 3 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 3 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **MW101** | Matrix: | **Aqueous** |
| Project: | **Wayland Raytheon** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137315-1** | QC Batch ID: | **VM10-1169-W** |
| Sampled: | **10-22-10 13:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-22-10 18:45** | Sample Volume: | **5 mL** |
| Analyzed: | **11-03-10 15:17** | Dilution Factor: | **5** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 3 |
| 100-42-5 | Styrene | BRL | | ug/L | 3 |
| 75-25-2 | Bromoform | BRL | | ug/L | 3 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 3 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 3 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 3 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 3 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 130 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 3 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 3 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 3 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 3 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 3 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 3 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 3 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 3 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 3 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 3 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 3 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 3 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 3 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 3 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 3 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 3 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 3 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 3 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 100 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 3 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 3 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 3 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **99** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 11 | **106** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 9 | **93** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 9 | **90** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# Project Narrative

| | | | |
|---|---|---|---|
| Project: | **Wayland Raytheon** | Lab ID: | **137315** |
| Client: | **Innovative Engineering Solutions, Inc.** | Received: | **10-22-10 18:45** |

## A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1 . Project 137315 was processed for Standard Turnaround. The project was given a due date of 11-05-10, per Sami Fam, 10-27-10.

## B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1 . EPA 8260B Note: Sample 137315-1. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.

2 . EPA 8260B Note: Sample 137315-1. Response factor for Acetone was below the recommended limit in the CCV/LCS.

3 . EPA 8260B Note: Sample 137315-1. Relative percent deviations for Dichlorodifluoromethane, 1,1,2-Trichlorotrifluoroethane, Tetrachloroethene, 2-Hexanone, Isopropylbenzene, trans-1,4-Dichloro-2-butene and 1,2-Dibromo-3-chloropropane were above the recommended limit in the CCV.

TO: Groundwater Analytical

# CHAIN OF CUSTODY RECORD

**BTC** Bioremediation Treatability Center • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Project Number: IESI - Wayland Dry Clean

Project Manager: Sami Fam

Company / Address: 25 Spring St Walpole

Phone #: Fax #:

Sampler's Signature: D Jones

Sampler's Printed Name: Dany Jones

| Client Sample ID | Sampling Date | Sampling Time | No. Of Vials bottles VOCs | Dissolved Gas | Organic Acid | Anions (Cl, $NO_3$, $SO_4$) | pH | Alkalinity | Ammonia | Orthophosphate | Total Iron | Total Manganese | TOC | COD | VOC 8260B | $H_2/CO_2$ | Biotank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW101 | 10/22/10 | 18 | 3 | | | | | | | | | | | | ✓ | | |

Special Instructions / Comments

Sample Receipt: Condition / Cooler Temp: 3.0 C

| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| | | | |
| Printed Name: Sami Fam | Printed Name: MARC A MUIR | Printed Name: MARC A MUIR | Printed Name: LITA STEEN |
| Firm: IESI | Firm: GLA | Firm: GLA | Firm: GLA |
| Date/Time: 10/22/10 3:30 pm | Date/Time: 10/22/10 1605 | Date/Time: 10/22/10 1845 | Date/Time: 10/22/10 1845 |

# Quality Assurance/Quality Control

## A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

## B. Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

# Quality Control Report
## Laboratory Control Samples

| | | LCS | | LCSD | |
|---|---|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1169-W** | Analyzed: | **11-03-10 06:02** | Analyzed: | **11-03-10 06:25** |
| Matrix: | **Aqueous** | Analyst: | **LMG** | Analyst: | **LMG** |
| Units: | **ug/L** | | | | |



| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | Spike | RPD |
| 75-71-8 | Dichlorodifluoromethane | 10 | 7.3 | **73** % | 10 | 7.3 | **73** % | **0** % | 70 - 130 % | 20% |
| 74-87-3 | Chloromethane | 10 | 8.8 | **88** % | 10 | 8.7 | **87** % | **2** % | 70 - 130 % | 20% |
| 75-01-4 | Vinyl Chloride | 10 | 8.4 | **84** % | 10 | 8.3 | **83** % | **1** % | 70 - 130 % | 20% |
| 74-83-9 | Bromomethane | 10 | 10 | **100** % | 10 | 10 | **103** % | **3** % | 70 - 130 % | 20% |
| 75-00-3 | Chloroethane | 10 | 9.4 | **94** % | 10 | 9.1 | **91** % | **3** % | 70 - 130 % | 20% |
| 75-69-4 | Trichlorofluoromethane | 10 | 9.2 | **92** % | 10 | 8.9 | **89** % | **3** % | 70 - 130 % | 20% |
| 60-29-7 | Diethyl Ether | 20 | 20 | **98** % | 20 | 20 | **101** % | **2** % | 70 - 130 % | 20% |
| 75-35-4 | 1,1-Dichloroethene | 10 | 9.4 | **94** % | 10 | 9.4 | **94** % | **0** % | 70 - 130 % | 20% |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 20 | 24 | **120** % | 20 | 23 | **117** % | **3** % | 70 - 130 % | 20% |
| 67-64-1 | Acetone | 20 | 19 | **95** % | 20 | 19 | **97** % | **2** % | 70 - 130 % | 20% |
| 75-15-0 | Carbon Disulfide | 20 | 19 | **95** % | 20 | 19 | **94** % | **1** % | 70 - 130 % | 20% |
| 75-09-2 | Methylene Chloride | 10 | 9.2 | **92** % | 10 | 9.3 | **93** % | **1** % | 70 - 130 % | 20% |
| 107-13-1 | Acrylonitrile | 10 | 10 | **101** % | 10 | 11 | **112** % | **10** % | 70 - 130 % | 20% |
| 156-60-5 | *trans*-1,2-Dichloroethene | 10 | 10 | **100** % | 10 | 10 | **101** % | **1** % | 70 - 130 % | 20% |
| 1634-04-4 | Methyl *tert*-butyl Ether (MTBE) | 10 | 11 | **105** % | 10 | 11 | **107** % | **1** % | 70 - 130 % | 20% |
| 75-34-3 | 1,1-Dichloroethane | 10 | 9.2 | **92** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 594-20-7 | 2,2-Dichloropropane | 10 | 9.3 | **93** % | 10 | 9.3 | **93** % | **0** % | 70 - 130 % | 20% |
| 156-59-2 | *cis*-1,2-Dichloroethene | 10 | 10 | **103** % | 10 | 10 | **101** % | **2** % | 70 - 130 % | 20% |
| 78-93-3 | 2-Butanone (MEK) | 20 | 20 | **99** % | 20 | 20 | **99** % | **0** % | 70 - 130 % | 20% |
| 74-97-5 | Bromochloromethane | 10 | 11 | **109** % | 10 | 11 | **112** % | **3** % | 70 - 130 % | 20% |
| 109-99-9 | Tetrahydrofuran (THF) | 20 | 22 | **108** % | 20 | 21 | **106** % | **2** % | 70 - 130 % | 20% |
| 67-66-3 | Chloroform | 10 | 9.1 | **91** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | 9.0 | **90** % | 10 | 9.0 | **90** % | **0** % | 70 - 130 % | 20% |
| 56-23-5 | Carbon Tetrachloride | 10 | 8.5 | **85** % | 10 | 8.3 | **83** % | **2** % | 70 - 130 % | 20% |
| 563-58-6 | 1,1-Dichloropropene | 10 | 8.7 | **87** % | 10 | 8.7 | **87** % | **0** % | 70 - 130 % | 20% |
| 71-43-2 | Benzene | 10 | 9.6 | **96** % | 10 | 9.6 | **96** % | **0** % | 70 - 130 % | 20% |
| 107-06-2 | 1,2-Dichloroethane | 10 | 8.2 | **82** % | 10 | 8.2 | **82** % | **1** % | 70 - 130 % | 20% |
| 79-01-6 | Trichloroethene | 10 | 8.9 | **89** % | 10 | 9.2 | **92** % | **3** % | 70 - 130 % | 20% |
| 78-87-5 | 1,2-Dichloropropane | 10 | 9.2 | **92** % | 10 | 9.0 | **90** % | **1** % | 70 - 130 % | 20% |
| 74-95-3 | Dibromomethane | 10 | 9.1 | **91** % | 10 | 9.0 | **90** % | **1** % | 70 - 130 % | 20% |
| 75-27-4 | Bromodichloromethane | 10 | 8.8 | **88** % | 10 | 8.7 | **87** % | **2** % | 70 - 130 % | 20% |
| 123-91-1 | 1,4-Dioxane | 200 | 210 | **106** % | 200 | 250 | **123** % | **15** % | 70 - 130 % | 20% |
| 10061-01-5 | *cis*-1,3-Dichloropropene | 10 | 8.0 | **80** % | 10 | 7.9 | **79** % | **2** % | 70 - 130 % | 20% |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 20 | 22 | **108** % | 20 | 21 | **107** % | **1** % | 70 - 130 % | 20% |
| 108-88-3 | Toluene | 10 | 9.5 | **95** % | 10 | 9.6 | **96** % | **0** % | 70 - 130 % | 20% |
| 10061-02-6 | *trans*-1,3-Dichloropropene | 10 | 8.8 | **88** % | 10 | 8.8 | **88** % | **1** % | 70 - 130 % | 20% |
| 79-00-5 | 1,1,2-Trichloroethane | 10 | 11 | **107** % | 10 | 11 | **106** % | **1** % | 70 - 130 % | 20% |
| 127-18-4 | Tetrachloroethene | 10 | 13 | **130** % | 10 | 13 | **130** % | **0** % | 70 - 130 % | 20% |
| 142-28-9 | 1,3-Dichloropropane | 10 | 11 | **107** % | 10 | 11 | **108** % | **1** % | 70 - 130 % | 20% |
| 591-78-6 | 2-Hexanone | 20 | 24 | **121** % | 20 | 25 | **125** % | **3** % | 70 - 130 % | 20% |
| 124-48-1 | Dibromochloromethane | 10 | 9.3 | **93** % | 10 | 9.6 | **96** % | **2** % | 70 - 130 % | 20% |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 10 | 11 | **114** % | 10 | 11 | **114** % | **0** % | 70 - 130 % | 20% |
| 108-90-7 | Chlorobenzene | 10 | 11 | **109** % | 10 | 11 | **114** % | **4** % | 70 - 130 % | 20% |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 10 | 12 | **118** % | 10 | 12 | **124** % | **5** % | 70 - 130 % | 20% |
| 100-41-4 | Ethylbenzene | 10 | 11 | **111** % | 10 | 11 | **114** % | **2** % | 70 - 130 % | 20% |
| 108-38-3/106-42-3 | *meta*-Xylene and *para*-Xylene | 20 | 23 | **114** % | 20 | 23 | **116** % | **2** % | 70 - 130 % | 20% |
| 95-47-6 | *ortho*-Xylene | 10 | 11 | **115** % | 10 | 12 | **118** % | **2** % | 70 - 130 % | 20% |
| 100-42-5 | Styrene | 10 | 10 | **101** % | 10 | 10 | **102** % | **1** % | 70 - 130 % | 20% |
| 75-25-2 | Bromoform | 10 | 9.7 | **97** % | 10 | 9.4 | **94** % | **3** % | 70 - 130 % | 20% |

GROUNDWATER ANALYTICAL

# Quality Control Report
## Laboratory Control Samples

| | | LCS | | LCSD | |
|---|---|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1169-W** | Analyzed: | **11-03-10 06:02** | Analyzed: | **11-03-10 06:25** |
| Matrix: | **Aqueous** | Analyst: | **LMG** | Analyst: | **LMG** |
| Units: | **ug/L** | | | | |



| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | Spike | RPD |
| 98-82-8 | Isopropylbenzene | 10 | 7.8 | **78** % | 10 | 7.8 | **78** % | **1** % | 70 - 130 % | 20% |
| 108-86-1 | Bromobenzene | 10 | 10 | **100** % | 10 | 10 | **101** % | **1** % | 70 - 130 % | 20% |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 10 | 8.9 | **89** % | 10 | 9.0 | **90** % | **0** % | 70 - 130 % | 20% |
| 96-18-4 | 1,2,3-Trichloropropane | 10 | 9.1 | **91** % | 10 | 9.1 | **91** % | **0** % | 70 - 130 % | 20% |
| 110-57-6 | *trans*-1,4-Dichloro-2-butene | 200 | 250 | **127** % | 200 | 250 | **125** % | **2** % | 70 - 130 % | 20% |
| 103-65-1 | *n*-Propylbenzene | 10 | 8.8 | **88** % | 10 | 8.9 | **89** % | **1** % | 70 - 130 % | 20% |
| 95-49-8 | 2-Chlorotoluene | 10 | 9.3 | **93** % | 10 | 9.4 | **94** % | **1** % | 70 - 130 % | 20% |
| 108-67-8 | 1,3,5-Trimethylbenzene | 10 | 9.2 | **92** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 106-43-4 | 4-Chlorotoluene | 10 | 9.1 | **91** % | 10 | 8.9 | **89** % | **2** % | 70 - 130 % | 20% |
| 98-06-6 | *tert*-Butylbenzene | 10 | 9.0 | **90** % | 10 | 8.8 | **88** % | **2** % | 70 - 130 % | 20% |
| 95-63-6 | 1,2,4-Trimethylbenzene | 10 | 9.6 | **96** % | 10 | 9.5 | **95** % | **1** % | 70 - 130 % | 20% |
| 135-98-8 | *sec*-Butylbenzene | 10 | 9.0 | **90** % | 10 | 8.9 | **89** % | **0** % | 70 - 130 % | 20% |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | 9.7 | **97** % | 10 | 9.7 | **97** % | **1** % | 70 - 130 % | 20% |
| 99-87-6 | 4-Isopropyltoluene | 10 | 8.6 | **86** % | 10 | 8.5 | **85** % | **1** % | 70 - 130 % | 20% |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | 9.4 | **94** % | 10 | 9.4 | **94** % | **1** % | 70 - 130 % | 20% |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | 9.3 | **93** % | 10 | 9.5 | **95** % | **2** % | 70 - 130 % | 20% |
| 104-51-8 | *n*-Butylbenzene | 10 | 9.0 | **90** % | 10 | 9.0 | **90** % | **0** % | 70 - 130 % | 20% |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 10 | 7.4 | **74** % | 10 | 7.8 | **78** % | **6** % | 70 - 130 % | 20% |
| 108-70-3 | 1,3,5-Trichlorobenzene | 10 | 11 | **114** % | 10 | 12 | **116** % | **2** % | 70 - 130 % | 20% |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | 10 | **102** % | 10 | 10 | **104** % | **2** % | 70 - 130 % | 20% |
| 87-68-3 | Hexachlorobutadiene | 10 | 10 | **103** % | 10 | 10 | **103** % | **1** % | 70 - 130 % | 20% |
| 91-20-3 | Naphthalene | 10 | 9.6 | **96** % | 10 | 9.8 | **98** % | **2** % | 70 - 130 % | 20% |
| 87-61-6 | 1,2,3-Trichlorobenzene | 10 | 10 | **104** % | 10 | 11 | **106** % | **2** % | 70 - 130 % | 20% |
| 75-65-0 | *tert*-Butyl Alcohol (TBA) | 200 | 180 | **91** % | 200 | 190 | **93** % | **2** % | 70 - 130 % | 20% |
| 108-20-3 | Di-isopropyl Ether (DIPE) | 10 | 9.2 | **92** % | 10 | 9.4 | **94** % | **1** % | 70 - 130 % | 20% |
| 637-92-3 | Ethyl *tert*-butyl Ether (ETBE) | 10 | 9.0 | **90** % | 10 | 9.1 | **91** % | **1** % | 70 - 130 % | 20% |
| 994-05-8 | *tert*-Amyl Methyl Ether (TAME) | 10 | 8.5 | **85** % | 10 | 8.6 | **86** % | **1** % | 70 - 130 % | 20% |

| QC Surrogate Compound | Spiked | Measured | Recovery | Spiked | Measured | Recovery | | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **101** % | 10 | 10 | **100** % | | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **103** % | 10 | 11 | **108** % | | 70 - 130 % |
| Toluene-$d_8$ | 10 | 9 | **95** % | 10 | 10 | **96** % | | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 9 | **88** % | 10 | 9 | **90** % | | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

# Quality Control Report
## Method Blank

| | | | |
|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1169-W** | Analyzed: | **11-03-10 06:56** |
| Matrix: | **Aqueous** | Analyst: | **LMG** |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 0.5 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 0.5 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 0.5 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 0.5 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 0.5 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 0.5 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 2 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 0.5 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 5 |
| 67-64-1 | Acetone | BRL | | ug/L | 10 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 5 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 3 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 3 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 0.5 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 0.5 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 5 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 0.5 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 5 |
| 67-66-3 | Chloroform | BRL | | ug/L | 0.5 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 0.5 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 0.5 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 0.5 |
| 71-43-2 | Benzene | BRL | | ug/L | 0.5 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 0.5 |
| 79-01-6 | Trichloroethene | BRL | | ug/L | 0.5 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 0.5 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 0.5 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 500 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 5 |
| 108-88-3 | Toluene | BRL | | ug/L | 0.5 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 0.5 |
| 127-18-4 | Tetrachloroethene | BRL | | ug/L | 0.5 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 0.5 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 5 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 0.5 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 0.5 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 0.5 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 0.5 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 0.5 |
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 0.5 |
| 100-42-5 | Styrene | BRL | | ug/L | 0.5 |
| 75-25-2 | Bromoform | BRL | | ug/L | 0.5 |

GROUNDWATER ANALYTICAL

# Quality Control Report
## Method Blank

| | | | |
|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1169-W** | Analyzed: | **11-03-10 06:56** |
| Matrix: | **Aqueous** | Analyst: | **LMG** |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 0.5 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 0.5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 0.5 |
| 110-57-6 | *trans*-1,4-Dichloro-2-butene | BRL | | ug/L | 25 |
| 103-65-1 | *n*-Propylbenzene | BRL | | ug/L | 0.5 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 0.5 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 0.5 |
| 98-06-6 | *tert*-Butylbenzene | BRL | | ug/L | 0.5 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 135-98-8 | *sec*-Butylbenzene | BRL | | ug/L | 0.5 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 0.5 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 104-51-8 | *n*-Butylbenzene | BRL | | ug/L | 0.5 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 0.5 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 0.5 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 0.5 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 75-65-0 | *tert*-Butyl Alcohol (TBA) | BRL | | ug/L | 20 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 0.5 |
| 637-92-3 | Ethyl *tert*-butyl Ether (ETBE) | BRL | | ug/L | 0.5 |
| 994-05-8 | *tert*-Amyl Methyl Ether (TAME) | BRL | | ug/L | 0.5 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **99** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 11 | **112** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 10 | **98** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 9 | **92** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

## Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.
Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

### CONNECTICUT

**Department of Health Services, PH-0586** — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

### MASSACHUSETTS

**Department of Environmental Protection, M-MA-103** — Potable Water and Non-Potable Water
http://public.dep.state.ma.us/labcert/labcert.aspx

**Department of Labor,**
**Division of Occupational Safety, AA000195** — Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt list aa.pdf

### NEW HAMPSHIRE

**Department of Environmental Services, 202708** — Potable Water, Non-Potable Water, Solid and Chemical Materials
http://www4.egov.nh.gov/DES/NHELAP

### NEW YORK

**Department of Health, 11754** — Potable Water, Non-Potable Water, Solid and Hazardous Waste
http://www.wadsworth.org/labcert/elap/comm.html

### RHODE ISLAND

**Department of Health,**
**Division of Laboratories, LAO00054** — Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
http://www.health.ri.gov/labs/outofstatelabs.pdf

### U.S. DEPARTMENT OF AGRICULTURE

**USDA, Soil Permit, S-53921** — Foreign soil import permit

### VERMONT

**Department of Health, VT-87643** — Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

GROUNDWATER ANALYTICAL

# Certifications and Approvals

| MASSACHUSETTS | Department of Environmental Protection, M-MA-103 |
|---|---|

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

**Potable Water (Drinking Water)**

| Analyte | Method |
|---|---|
| 1,2-Dibromo-3-Chloropropane | EPA 504.1 |
| 1,2-Dibromoethane | EPA 504.1 |
| Alkalinity, Total | SM 2320-B |
| Antimony | EPA 200.8 |
| Arsenic | EPA 200.8 |
| Barium | EPA 200.7 |
| Barium | EPA 200.8 |
| Beryllium | EPA 200.7 |
| Beryllium | EPA 200.8 |
| Cadmium | EPA 200.7 |
| Cadmium | EPA 200.8 |
| Calcium | EPA 200.7 |
| Chlorine, Residual Free | SM 4500-CL-G |
| Chromium | EPA 200.7 |
| Copper | EPA 200.7 |
| Copper | EPA 200.8 |
| Cyanide, Total | Lachat 10-204-00-1-A |
| E. Coli (Treatment and Distribution) | Enz. Sub. SM 9223 |
| E. Coli (Treatment and Distribution) | NA-MUG SM 9222-G |
| Fecal Coliform (Source Water) | MF SM 9222-D |
| Fluoride | EPA 300.0 |
| Fluoride | SM 4500-F-C |
| Haloacetic Acids | EPA 552.2 |
| Heterotrophic Plate Count | SM 9215-B |
| Lead | EPA 200.8 |
| Mercury | EPA 245.1 |
| Nickel | EPA 200.7 |
| Nickel | EPA 200.8 |
| Nitrate-N | EPA 300.0 |
| Nitrate-N | Lachat 10-107-04-1-C |
| Nitrite-N | EPA 300.0 |
| Nitrite-N | Lachat 10-107-04-1-C |
| pH | SM 4500-H-B |
| Selenium | EPA 200.8 |
| Silver | EPA 200.7 |
| Silver | EPA 200.8 |
| Sodium | EPA 200.7 |
| Sulfate | EPA 300.0 |
| Thallium | EPA 200.8 |
| Total Coliform (Treatment and Distribution) | Enz. Sub. SM 9223 |
| Total Coliform (Treatment and Distribution) | MF SM 9222-B |
| Total Dissolved Solids | SM 2540-C |
| Trihalomethanes | EPA 524.2 |
| Turbidity | SM 2130-B |
| Volatile Organic Compounds | EPA 524.2 |

**Non-Potable Water (Wastewater)**

| Analyte | Method |
|---|---|
| Aldrin | EPA 608 |
| Alkalinity, Total | SM 2320-B |
| Alpha-BHC | EPA 608 |
| Aluminum | EPA 200.7 |

**Non-Potable Water (Wastewater)**

| Analyte | Method |
|---|---|
| Aluminum | EPA 200.8 |
| Ammonia-N | Lachat 10-107-06-1-B |
| Antimony | EPA 200.7 |
| Antimony | EPA 200.8 |
| Arsenic | EPA 200.7 |
| Arsenic | EPA 200.8 |
| Beryllium | EPA 200.7 |
| Beryllium | EPA 200.8 |
| Beta-BHC | EPA 608 |
| Biochemical Oxygen Demand | SM 5210-B |
| Cadmium | EPA 200.7 |
| Cadmium | EPA 200.8 |
| Calcium | EPA 200.7 |
| Chemical Oxygen Demand | SM 5220-D |
| Chlordane | EPA 608 |
| Chloride | EPA 300.0 |
| Chlorine, Total Residual | SM 4500-CL-G |
| Chromium | EPA 200.7 |
| Chromium | EPA 200.8 |
| Cobalt | EPA 200.7 |
| Cobalt | EPA 200.8 |
| Copper | EPA 200.7 |
| Copper | EPA 200.8 |
| Cyanide, Total | Lachat 10-204-00-1-A |
| DDD | EPA 608 |
| DDE | EPA 608 |
| DDT | EPA 608 |
| Delta-BHC | EPA 608 |
| Dieldrin | EPA 608 |
| Endosulfan I | EPA 608 |
| Endosulfan II | EPA 608 |
| Endosulfan Sulfate | EPA 608 |
| Endrin | EPA 608 |
| Endrin Aldehyde | EPA 608 |
| Gamma-BHC | EPA 608 |
| Hardness (CaCO3), Total | EPA 200.7 |
| Hardness (CaCO3), Total | SM 2340-B |
| Heptachlor | EPA 608 |
| Heptachlor Epoxide | EPA 608 |
| Iron | EPA 200.7 |
| Kjeldahl-N | Lachat 10-107-06-02-D |
| Lead | EPA 200.7 |
| Magnesium | EPA 200.7 |
| Manganese | EPA 200.7 |
| Manganese | EPA 200.8 |
| Mercury | EPA 245.1 |
| Molybdenum | EPA 200.7 |
| Molybdenum | EPA 200.8 |
| Nickel | EPA 200.7 |
| Nickel | EPA 200.8 |
| Nitrate-N | EPA 300.0 |
| Nitrate-N | Lachat 10-107-04-1-C |
| Non-Filterable Residue | SM 2540-D |
| Oil and Grease | EPA 1664 |

GROUNDWATER ANALYTICAL

# Certifications and Approvals

| MASSACHUSETTS | Department of Environmental Protection, M-MA-103 |
|---|---|

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

**Non-Potable Water (Wastewater)**

| Analyte | Method |
|---|---|
| Orthophosphate | Lachat 10-115-01-1-A |
| pH | SM 4500-H-B |
| Phenolics, Total | EPA 420.4 |
| Phenolics, Total | Lachat 10-210-00-1-B |
| Phosphorus, Total | Lachat 10-115-01-1-C |
| Phosphorus, Total | SM 4500-P-B,E |
| Polychlorinated Biphenyls (Oil) | EPA 600/4-81-045 |
| Polychlorinated Biphenyls (Water) | EPA 608 |
| Potassium | EPA 200.7 |
| Selenium | EPA 200.7 |
| Selenium | EPA 200.8 |
| Silver | EPA 200.7 |
| Sodium | EPA 200.7 |
| Specific Conductivity | SM 2510-B |
| Strontium | EPA 200.7 |
| Sulfate | EPA 300.0 |
| SVOC-Acid Extractables | EPA 625 |
| SVOC-Base/Neutral Extractables | EPA 625 |
| Thallium | EPA 200.7 |
| Thallium | EPA 200.8 |
| Titanium | EPA 200.7 |
| Total Dissolved Solids | SM 2540-C |
| Total Organic Carbon | SM 5310-B |
| Toxaphene | EPA 608 |
| Vanadium | EPA 200.7 |
| Vanadium | EPA 200.8 |
| Volatile Aromatics | EPA 602 |
| Volatile Aromatics | EPA 624 |
| Volatile Halocarbons | EPA 624 |
| Zinc | EPA 200.7 |
| Zinc | EPA 200.8 |

**Groundwater Analytical, Inc.**
**P.O.Box 1200**
**228 Main Street**
**Buzzards Bay, MA 02532**

**Telephone: (508) 759-4441**
**FAX: (508) 759-4475**

# e-mail

| | | | |
|---|---|---|---|
| To: | Sami Fam | From: | e-mail reporting GWA |
| | Innovative Engineering | Pages: | 33 |
| e-mail: | s fam@iesionline.com | Date: | 11/01/2010 15:27:16 |
| Re: | 137167 | CC: | |

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply

● Comments:

Final Project Report for Raytheon - Wayland/RA008, Lab ID 137167,
Received 10-19-10

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**Confidential**

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

November 1, 2010

Mr. Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring Street
Walpole, MA 02081

**LABORATORY REPORT**

Project: **Raytheon - Wayland/RA008**
Lab ID: **137167**
Received: **10-19-10**

Dear Sami:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Karyn E. Raymond

Karyn E. Raymond
Project Manager

KER/elm
Enclosures

GROUNDWATER ANALYTICAL

# Sample Receipt Report

| | | | | | |
|---|---|---|---|---|---|
| Project: | **Raytheon - Wayland/RA008** | Delivery: | **GWA Courier** | Temperature: | **4.7ºC** |
| Client: | **Innovative Engineering Solutions, Inc.** | Airbill: | **n/a** | Chain of Custody: | **Present** |
| Lab ID: | **137167** | Lab Receipt: | **10-19-10** | Custody Seal(s): | **n/a** |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137167-1 | REW-1 | | Aqueous | 10/18/10 10:45 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1310214 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310204 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310203 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137167-2 | REW-2 | | Aqueous | 10/18/10 11:30 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1310226 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310213 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310205 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137167-3 | RIW-3 | | Aqueous | 10/18/10 12:15 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1310229 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310228 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310211 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137167-4 | RIW-2 | | Aqueous | 10/18/10 13:00 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1310217 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310201 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310200 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137167-5 | RIW-1 | | Aqueous | 10/18/10 14:00 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1310216 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310215 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310202 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |

| Lab ID | Field ID | | Matrix | Sampled | Method | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 137167-6 | RIW-2 Dup | | Aqueous | 10/18/10 13:00 | EPA 8260B Volatile Organics with Oxygenates | | | | |
| **Con ID** | **Container** | **Vendor** | **QC Lot** | **Preserv** | **QC Lot** | **Prep** | **Ship** | | |
| C1310227 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310212 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |
| C1310206 | 40 mL VOA Vial | Scientific Specialist Service | BX37542 | HCL | R-5915D | 10-06-10 | n/a | | |

GROUNDWATER ANALYTICAL

# Data Certification

| | | | |
|---|---|---|---|
| Project: | **Raytheon - Wayland/RA008** | Lab ID: | **137167** |
| Client: | **Innovative Engineering Solutions, Inc.** | Received: | **10-19-10 14:30** |

**Mass DEP Analytical Protocol Certification Form**

Project Location: **n/a** MA DEP RTN: **n/a**

**This Form provides certifications for the following data set:**

EPA 8260B: 137167-1,-2,-3,-4,-5,-6

Sample Matrices: Groundwater/Surface (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

**CAM Protocol** (check all that apply below):

| | | | | | |
|---|---|---|---|---|---|
| 8260 VOC CAM II A (X) | 7470/7471 Hg CAM III B ( ) | Mass DEP VPH CAM IV A ( ) | 8081 Pesticides CAM V B ( ) | 7196 Hex Cr CAM VI B ( ) | Mass DEP APH CAM IX A ( ) |
| 8270 SVOC CAM II B ( ) | 7010 Metals CAM III C ( ) | Mass DEP EPH CAM IV B ( ) | 8151 Herbicides CAM V C ( ) | 8330 Explosives CAM VIII A ( ) | TO-15 VOC CAM IX B ( ) |
| 6010 Metals CAM III A ( ) | 6020 Metals CAM III D ( ) | 8082 PCB CAM V A ( ) | 9012 Cyanide/PAC CAM VI A ( ) | 6860 Perchlorate CAM VIII B ( ) | |

**An affirmative response to questions A through F are required for "Presumptive Certainty" status.**

| | | |
|---|---|---|
| A. | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratoratory, and prepared/analyzed within method holding times? | Yes |
| B. | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | Yes |
| C. | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | Yes |
| D. | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? | Yes |
| E. | VPH, EPH and APH methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | n/a |
| F. | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | Yes |

**Responses to questions G, H and I below are required for "Presumptive Certainty" status.**

| | | |
|---|---|---|
| G. | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | No |

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.**

| | | |
|---|---|---|
| H. | Were all QC performance standards specified in the CAM protocol(s) achieved? | No |
| I. | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | Yes |

**All negative responses must be addressed in an attached laboratory narrative.**

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

| | | | |
|---|---|---|---|
| Signature: | Karyn E. Raymond | Position: | Project Manager |
| Printed Name: | Karyn E. Raymond | Date: | 11-01-10 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **REW-1** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-1** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 10:45** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 12:59** | Dilution Factor: | **1** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 0.5 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 0.5 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 0.5 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 0.5 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 0.5 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 0.5 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 2 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 0.5 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 5 |
| 67-64-1 | Acetone | BRL | | ug/L | 10 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 5 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 3 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 3 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 0.5 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 0.5 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **2** | | ug/L | 0.5 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 5 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 0.5 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 5 |
| 67-66-3 | Chloroform | BRL | | ug/L | 0.5 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 0.5 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 0.5 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 0.5 |
| 71-43-2 | Benzene | BRL | | ug/L | 0.5 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 0.5 |
| 79-01-6 | Trichloroethene | **27** | | ug/L | 0.5 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 0.5 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 0.5 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 500 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 5 |
| 108-88-3 | Toluene | BRL | | ug/L | 0.5 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 0.5 |
| 127-18-4 | Tetrachloroethene | **0.7** | | ug/L | 0.5 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 0.5 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 5 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 0.5 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 0.5 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 0.5 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 0.5 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 0.5 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **REW-1** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-1** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 10:45** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 12:59** | Dilution Factor: | **1** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 0.5 |
| 100-42-5 | Styrene | BRL | | ug/L | 0.5 |
| 75-25-2 | Bromoform | BRL | | ug/L | 0.5 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 0.5 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 0.5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 0.5 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 25 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 0.5 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 0.5 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 0.5 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 0.5 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 0.5 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 0.5 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 0.5 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 0.5 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 0.5 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 0.5 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 20 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 0.5 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 0.5 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 0.5 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **101** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **105** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 12 | **120** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 11 | **113** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# EPA Method 8260B
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **REW-2** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-2** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 11:30** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 13:22** | Dilution Factor: | **5** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 3 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 3 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 3 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 3 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 3 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 3 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 10 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 3 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 25 |
| 67-64-1 | Acetone | BRL | | ug/L | 50 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 25 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 13 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 13 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 3 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 3 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 3 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 3 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **23** | | ug/L | 3 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 25 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 3 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 25 |
| 67-66-3 | Chloroform | BRL | | ug/L | 3 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 3 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 3 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 3 |
| 71-43-2 | Benzene | BRL | | ug/L | 3 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 3 |
| 79-01-6 | Trichloroethene | **220** | | ug/L | 3 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 3 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 3 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 3 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 2,500 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 2 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 25 |
| 108-88-3 | Toluene | BRL | | ug/L | 3 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 2 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 3 |
| 127-18-4 | Tetrachloroethene | **6** | | ug/L | 3 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 3 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 25 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 3 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 3 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 3 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 3 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 3 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 3 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **REW-2** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-2** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 11:30** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 13:22** | Dilution Factor: | **5** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 3 |
| 100-42-5 | Styrene | BRL | | ug/L | 3 |
| 75-25-2 | Bromoform | BRL | | ug/L | 3 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 3 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 3 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 3 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 3 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 130 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 3 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 3 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 3 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 3 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 3 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 3 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 3 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 3 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 3 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 3 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 3 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 3 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 3 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 3 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 3 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 3 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 3 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 3 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 100 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 3 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 3 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 3 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **101** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **103** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 11 | **108** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 11 | **108** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# EPA Method 8260B
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-3** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-3** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 12:15** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 13:46** | Dilution Factor: | **20** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 10 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 10 |
| 75-01-4 | Vinyl Chloride | **11** | | ug/L | 10 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 10 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 10 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 10 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 40 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 10 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 100 |
| 67-64-1 | Acetone | BRL | | ug/L | 200 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 100 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 50 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 50 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 10 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 10 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 10 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 10 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **300** | | ug/L | 10 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 100 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 10 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 100 |
| 67-66-3 | Chloroform | BRL | | ug/L | 10 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 10 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 10 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 10 |
| 71-43-2 | Benzene | BRL | | ug/L | 10 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 10 |
| 79-01-6 | Trichloroethene | **1,600** | | ug/L | 10 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 10 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 10 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 10 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 10,000 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 8 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 100 |
| 108-88-3 | Toluene | BRL | | ug/L | 10 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 8 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 10 |
| 127-18-4 | Tetrachloroethene | **140** | | ug/L | 10 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 10 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 100 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 10 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 10 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 10 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 10 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 10 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 10 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-3** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-3** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 12:15** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 13:46** | Dilution Factor: | **20** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 10 |
| 100-42-5 | Styrene | BRL | | ug/L | 10 |
| 75-25-2 | Bromoform | BRL | | ug/L | 10 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 10 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 10 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 10 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 10 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 500 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 10 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 10 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 10 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 10 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 10 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 10 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 10 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 10 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 10 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 10 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 10 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 10 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 10 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 10 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 10 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 10 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 10 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 10 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 400 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 10 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 10 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 10 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **102** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 11 | **107** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 11 | **110** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 13 | **126** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# EPA Method 8260B
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-2** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-4** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 13:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 14:09** | Dilution Factor: | **10** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 5 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 5 |
| 75-01-4 | Vinyl Chloride | **26** | | ug/L | 5 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 5 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 5 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 5 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 20 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 5 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 50 |
| 67-64-1 | Acetone | BRL | | ug/L | 100 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 50 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 25 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 25 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 5 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 5 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 5 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 5 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **150** | | ug/L | 5 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 50 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 5 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 50 |
| 67-66-3 | Chloroform | BRL | | ug/L | 5 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 5 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 5 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 5 |
| 71-43-2 | Benzene | BRL | | ug/L | 5 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 5 |
| 79-01-6 | Trichloroethene | **810** | | ug/L | 5 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 5 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 5 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 5 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 5,000 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 4 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 50 |
| 108-88-3 | Toluene | BRL | | ug/L | 5 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 4 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 5 |
| 127-18-4 | Tetrachloroethene | **86** | | ug/L | 5 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 5 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 50 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 5 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 5 |
| 108-90-7 | Chlorobenzene | **9** | | ug/L | 5 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 5 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 5 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 5 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-2** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-4** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 13:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 14:09** | Dilution Factor: | **10** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 5 |
| 100-42-5 | Styrene | BRL | | ug/L | 5 |
| 75-25-2 | Bromoform | BRL | | ug/L | 5 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 5 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 5 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 5 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 250 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 5 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 5 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 5 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 5 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 5 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 5 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 5 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 5 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 5 |
| 106-46-7 | 1,4-Dichlorobenzene | **9** | | ug/L | 5 |
| 95-50-1 | 1,2-Dichlorobenzene | **5** | | ug/L | 5 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 5 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 5 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 5 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 5 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 5 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 5 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 5 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 200 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 5 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 5 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 5 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **104** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 11 | **109** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 11 | **109** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 11 | **108** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# EPA Method 8260B
## Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-1** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-5** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 14:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 14:33** | Dilution Factor: | **50** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 25 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 25 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 25 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 25 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 25 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 25 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 100 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 25 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 250 |
| 67-64-1 | Acetone | BRL | | ug/L | 500 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 250 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 130 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 130 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 25 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 25 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 25 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 25 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **310** | | ug/L | 25 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 250 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 25 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 250 |
| 67-66-3 | Chloroform | BRL | | ug/L | 25 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 25 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 25 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 25 |
| 71-43-2 | Benzene | BRL | | ug/L | 25 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 25 |
| 79-01-6 | Trichloroethene | **5,200** | e | ug/L | 25 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 25 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 25 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 25 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 25,000 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 20 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 250 |
| 108-88-3 | Toluene | BRL | | ug/L | 25 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 20 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 25 |
| 127-18-4 | Tetrachloroethene | **240** | | ug/L | 25 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 25 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 250 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 25 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 25 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 25 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 25 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 25 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 25 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-1** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-5** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 14:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 14:33** | Dilution Factor: | **50** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 25 |
| 100-42-5 | Styrene | BRL | | ug/L | 25 |
| 75-25-2 | Bromoform | BRL | | ug/L | 25 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 25 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 25 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 25 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 25 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 1,300 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 25 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 25 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 25 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 25 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 25 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 25 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 25 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 25 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 25 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 25 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 25 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 25 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 25 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 25 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 25 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 25 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 25 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 25 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 1,000 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 25 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 25 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 25 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **103** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 11 | **107** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 13 | **129** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 11 | **112** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:**

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

# EPA Method 8260B
## Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-1** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-5RA1** | QC Batch ID: | **VM10-1165-W** |
| Sampled: | **10-18-10 14:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-29-10 10:51** | Dilution Factor: | **100** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 50 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 50 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 50 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 50 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 50 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 50 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 200 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 50 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 500 |
| 67-64-1 | Acetone | BRL | | ug/L | 1,000 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 500 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 250 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 250 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 50 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 50 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 50 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 50 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **320** | | ug/L | 50 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 500 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 50 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 500 |
| 67-66-3 | Chloroform | BRL | | ug/L | 50 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 50 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 50 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 50 |
| 71-43-2 | Benzene | BRL | | ug/L | 50 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 50 |
| 79-01-6 | Trichloroethene | **5,300** | | ug/L | 50 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 50 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 50 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 50 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 50,000 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 40 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 500 |
| 108-88-3 | Toluene | BRL | | ug/L | 50 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 40 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 50 |
| 127-18-4 | Tetrachloroethene | **250** | | ug/L | 50 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 50 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 500 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 50 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 50 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 50 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 50 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 50 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 50 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-1** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-5RA1** | QC Batch ID: | **VM10-1165-W** |
| Sampled: | **10-18-10 14:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-29-10 10:51** | Dilution Factor: | **100** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 50 |
| 100-42-5 | Styrene | BRL | | ug/L | 50 |
| 75-25-2 | Bromoform | BRL | | ug/L | 50 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 50 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 50 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 50 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 50 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 2,500 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 50 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 50 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 50 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 50 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 50 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 50 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 50 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 50 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 50 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 50 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 50 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 50 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 50 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 50 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 50 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 50 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 50 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 50 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 2,000 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 50 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 50 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 50 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 9 | **94** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **99** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 11 | **114** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 10 | **103** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# EPA Method 8260B
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-2 Dup** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-6** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 13:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 14:56** | Dilution Factor: | **10** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 5 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 5 |
| 75-01-4 | Vinyl Chloride | **23** | | ug/L | 5 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 5 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 5 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 5 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 20 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 5 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 50 |
| 67-64-1 | Acetone | BRL | | ug/L | 100 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 50 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 25 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 25 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 5 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 5 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 5 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 5 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | **150** | | ug/L | 5 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 50 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 5 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 50 |
| 67-66-3 | Chloroform | BRL | | ug/L | 5 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 5 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 5 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 5 |
| 71-43-2 | Benzene | BRL | | ug/L | 5 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 5 |
| 79-01-6 | Trichloroethene | **770** | | ug/L | 5 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 5 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 5 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 5 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 5,000 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 4 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 50 |
| 108-88-3 | Toluene | BRL | | ug/L | 5 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 4 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 5 |
| 127-18-4 | Tetrachloroethene | **110** | | ug/L | 5 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 5 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 50 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 5 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 5 |
| 108-90-7 | Chlorobenzene | **9** | | ug/L | 5 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 5 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 5 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 5 |

GROUNDWATER ANALYTICAL

# EPA Method 8260B (Continued)
# Volatile Organics by GC/MS

| | | | |
|---|---|---|---|
| Field ID: | **RIW-2 Dup** | Matrix: | **Aqueous** |
| Project: | **Raytheon - Wayland/RA008** | Container: | **40 mL VOA Vial** |
| Client: | **Innovative Engineering Solutions, Inc.** | Preservation: | **HCl/ Cool** |
| Laboratory ID: | **137167-6** | QC Batch ID: | **VM10-1163-W** |
| Sampled: | **10-18-10 13:00** | Instrument ID: | **MS-10 HP 6890** |
| Received: | **10-19-10 14:30** | Sample Volume: | **5 mL** |
| Analyzed: | **10-27-10 14:56** | Dilution Factor: | **10** |
| Analyst: | **LMG** | | |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 5 |
| 100-42-5 | Styrene | BRL | | ug/L | 5 |
| 75-25-2 | Bromoform | BRL | | ug/L | 5 |
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 5 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 5 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 5 |
| 110-57-6 | *trans* -1,4-Dichloro-2-butene | BRL | | ug/L | 250 |
| 103-65-1 | *n* -Propylbenzene | BRL | | ug/L | 5 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 5 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 5 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 5 |
| 98-06-6 | *tert*- Butylbenzene | BRL | | ug/L | 5 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 5 |
| 135-98-8 | *sec* -Butylbenzene | BRL | | ug/L | 5 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 5 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 5 |
| 106-46-7 | 1,4-Dichlorobenzene | **9** | | ug/L | 5 |
| 95-50-1 | 1,2-Dichlorobenzene | **6** | | ug/L | 5 |
| 104-51-8 | *n* -Butylbenzene | BRL | | ug/L | 5 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 5 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 5 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 5 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 5 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 5 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 5 |
| 75-65-0 | *tert* -Butyl Alcohol (TBA) | BRL | | ug/L | 200 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 5 |
| 637-92-3 | Ethyl *tert*- butyl Ether (ETBE) | BRL | | ug/L | 5 |
| 994-05-8 | *tert* -Amyl Methyl Ether (TAME) | BRL | | ug/L | 5 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **102** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **104** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 12 | **124** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 11 | **111** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution

GROUNDWATER ANALYTICAL

# Project Narrative

| | | | |
|---|---|---|---|
| Project: | **Raytheon - Wayland/RA008** | Lab ID: | **137167** |
| Client: | **Innovative Engineering Solutions, Inc.** | Received: | **10-19-10 14:30** |

## A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1 . No documentation discrepancies, changes, or amendments were noted.

## B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1 . EPA 8260B Non-conformance: Sample 137167-5. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Sample was reanalyzed and reported with all analytes within calibration.

2 . EPA 8260B Note: Samples 137167-2 through -6 and -5RA1. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration. Elevated reporting limits are above the recommended CAM reporting limits for the target analytes.

3 . EPA 8260B Non-conformance: Laboratory control sample (LCS) analyte trans-1,4-Dichloro-2-butene was above recommended recovery limits for QC batch VM10-1165-W.

4 . EPA 8260B Non-conformance: Laboratory control sample (LCS) analytes trans-1,3-Dichloropropene, 1,1,2-Trichloroethane, 1,3-Dichloropropane, 2-Hexanone and Dibromochloromethane had RPD recoveries outside recommended recovery limits for QC batch VM10-1165-W.

5 . EPA 8260B Non-conformance: Laboratory control sample (LCS) analytes 1,4-Dioxane, Bromobenzene, 4-Chlorotoluene, 1,2,4-Trichlorobenzene, Hexachlorobutadiene and 1,2,3-Trichlorobenzene had RPD recoveries outside recommended recovery limits for QC batch VM10-1163-W.

6 . Sample 137167-7 was not received with sample collection time listed on the Chain of Custody. Sample was reported with a sampling collection time of 00:00 by the laboratory.

7 . EPA 8260B Note: Sample 137167-5RA1. Relative percent deviations for Acetone, Acrylonitrile, trans-1,3-Dichloropropene, Dibromochloromethane, 1,1,2,2-Tetrachloroethane and trans-1,4-Dichloro-2-bueten were above the recommended limit in the CCV.

**GROUNDWATER ANALYTICAL**

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441 • FAX (508) 759-4475
www.groundwateranalytical.com

# CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Project Name: Raytheon - Wayland
Firm: IESI
Project Number: RA008
Address: 25 Spring St
Sampler Name: S Farm
City / State / Zip:: Walpole MA 02030
Project Manager: S Farm
Telephone:

INSTRUCTIONS: Use separate line for each container (except replicates).

## TURNAROUND

- ☐ 10 Business Days
- ☐ 5 Business Days
- ☐ RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)
- ☐ Please Email to: _____
- ☐ Please FAX to: _____

## BILLING

- ☐ Purchase Order No.: _____
- ☐ Third Party Billing: _____
- ☐ GWA Quote: _____

## ANALYSIS REQUEST

OPTIONS: ☐ TIC Search

Volatiles: SDWA ☐ 524.2; NPDES ☐ 624; RCRA/21E ☐ 8260B TCL+MTBE

Volatiles: NPDES ☐ 602+MTBE; RCRA/21E ☐ 8260B Aromatics; ☐ 8260B Halocarbons; ☐ 8021B Vermont

Semivolatiles: OPTIONS ☐ Acid Only; ☐ B/N Only; ☐ TIC Search

Semivolatiles: SDWA ☐ 525.2; NPDES ☐ 625; RCRA/21E ☐ 8270C

Semivolatiles: NPDES ☐ 625 PAHs only; RCRA/21E ☐ 8270C PAHs only

Pest/Herb/PCBs Extractable: SDWA ☐ 505 ☐ 508; NPDES ☐ 608 Pesticides; RCRA/21E ☐ 8081A Pesticides

Pest/Herb/PCBs Extractable: NPDES ☐ 608 PCBs; RCRA/21E ☐ 8082 PCBs

Pest/Herb/PCBs Vol.: SDWA ☐ 531.1; ☐ 515.3; ☐ 504.1 EDB/DBCP; NPDES ☐ 615; RCRA/21E ☐ 8151A Herbicides; ☐ 8011 EDB/DBCP

Metals: OPTIONS Specify For Water Samples ☐ Total ☐ Dissolved; SDWA ☐ Lead and Copper; NPDES ☐ 13 Priority Pollutant; RCRA/21E ☐ 8 RCRA; ☐ 5 RCRA; ☐ 14 MA DEP Metals; ☐ 23 TAL; ☐ Specify:

Petroleum Hydrocarbon Ext. TPH: ☐ Diesel Range Organics (DRO) ☐ ME DRO; ☐ CT ETPH; ☐ MA DEP EPH w/all targets; ☐ EPH Carbon Ranges only, ☐ EPH w/4 PAHs; ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-00-Mod.); ☐ TPH by GC/FID (8015B Mod) Quantitative Only

Petroleum Hydrocarbon Vol. TPH: ☐ Gasoline Range Organics (GRO); ☐ ME GRO; ☐ MA DEP VPH w/all targets; ☐ VPH Carbon ranges only

Haz. Waste: ☐ TCLP ☐ SPLP ☐ 8 Metals ☐ Pb only ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides; ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability ☐ Conductivity ☐ Paint Filter; ☐ MA Basic Disposal: 6200/8TCL TPH, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity; ☐ MA Extended Disposal 8260B, 8270C, TPH, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity

General Chemistry: ☐ Nitrate ☐ Nitrite ☐ Chlorine ☐ Fluoride ☐ Sulfate; ☐ Dissolved Phosphorus; ☐ Ammonia ☐ TKN ☐ Total Phosphorus ☐ Total N (as NO2/NO3/TKN); ☐ Oil & Grease; ☐ COD ☐ TOC; ☐ BOD ☐ CBOD ☐ TDS ☐ TSS ☐ TS ☐ Alkalinity; ☐ Total Cyanide ☐ Physiologically Available Cyanide ☐ Amenable Cyanide

Other: ☐ pH ☐ Dissolved Oxygen ☐ Turbidity; ☐ Total Coliform ☐ Fecal Coliform ☐ HPC; ☐ MA DEP Asbestos in Soil ☐ Asbestos (PLM)

| Sampling DATE | Sampling TIME | SAMPLE IDENTIFICATION | Matrix: GROUNDWATER | DRINKING WATER | WASTEWATER | SOIL | OTHER SOLID | OIL/ORGANIC LIQUID | Type: COMPOSITE | GRAB | Container(s): NUMBER | 40mL VOA Vial | 60mL/2 oz Glass | 125mL/4 oz Amber Glass | 250mL/8 oz Glass | 500mL/16 oz Glass | 1L/32 oz Amber Glass | 250mL/8 oz Plastic | 500mL/16 oz Plastic | 1L/32 oz Plastic | 120mL Sterile | Preservation: ICE | HNO3 | H2SO4 | NaOH | Methanol | Sodium Bisulfate | ICE | Filtered: YES | NO | LABORATORY NUMBER (Lab Use Only) | 8260B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| /18 | 10:45 | REW1 | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | | | | | | |
| /18 | 11:30 | REW2 | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | | | | | | ✓ |
| /18 | 12:15 | RIW3 | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | | | | | | ✓ |
| /18 | 1p | RIW2 | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | | | | | | ✓ |
| /18 | 2p | RIW1 | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | | | | | | ✓ |
| /18 | 1p | RIW2-dup | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | | | | | | ✓ |
| | | [illegible] | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## REMARKS / SPECIAL INSTRUCTIONS

- ☐ YES ☐ NO MCP Data Certification required.
- ☐ YES ☐ NO MCP Drinking Water Sample Included.
  (Volatile analyses require duplicate collection and Trip Blanks).
- ☐ Analyze Duplicates and Trips Blanks only if positive results.
- ☐ YES ☐ NO CT RCP Data Certification required.

Signature: _____

## DATA QUALITY OBJECTIVES

### Regulatory Program

| State | Standard | Deliverables |
|---|---|---|
| ☐ CT | ☐ MCP GW-1/S-1 | ☐ PWS Form |
| ☐ ME | ☐ MCP GW-2/S-2 | ☐ MWRA |
| ☐ MA | ☐ NY STARS | ☐ _____ |
| ☐ NH | ☐ Drinking Water | |
| ☐ NY | ☐ Wastewater | |
| ☐ RI | ☐ Waste Disposal | |
| ☐ VT | ☐ Dredge Material | |
| ☐ ___ | ☐ _____ | |

### Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

**Project Specific QC Required**
- ☐ Sample Duplicate
- ☐ Matrix Spike
- ☐ Matrix Spike Duplicate

**Selection of QC Sample**
- ☐ Please use sample: _____

## CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

| Relinquished by Sampler: | Date: 10/19 | Time: 8 | Received by: Joe Cleary | Date: 10/19/10 | Receipt Temperature: ☐ Ice ☐ Refrigerated 2-6°C Recommended 4.7 |
|---|---|---|---|---|---|
| Relinquished by: | Date: 10/19/10 | Time: 1430 | Received by: | 10/19/10 | Container Count: |
| Relinquished by: | Date: | Time: | Received by Laboratory: | | Shipping/Airbill Number: |

Method of Shipment: ☐ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ _____

Custody Seal Number:

# SAMPLE CONTAINER REQUEST

**Groundwater Analytical, Inc.**

| | |
|---|---|
| **Requested By:** Vicki Pariyar | **Project Name:** |
| **Firm:** IESI | **Deliver by** **Time:** |
| **Deliver to:** | |
| **Address:** | **Date requested:** **Time:** |
| **City/State/Zip:** | **Request taken by: Jon** |

| Analyses | Matrix | Number of Samples | Collect in Duplicate Triplicate | Preservative All Samples Cool to 4° | Total Number and Size/Type Containers Needed | Remarks |
|---|---|---|---|---|---|---|
| VOC 8260 | W | 5 | x3 | HCl | 15 x 40mL vials | |
| Duplicate | W | 1 | x3 | HCl | 3 x 40mL vials | |
| | | | | | Trip Blank | |
| | | | | | | |
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# Quality Assurance/Quality Control

## A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

## B. Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

# Quality Control Report
## Laboratory Control Samples

| | | LCS | | LCSD | |
|---|---|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1163-W** | Analyzed: | **10-27-10 06:52** | Analyzed: | **10-27-10 07:16** |
| Matrix: | **Aqueous** | Analyst: | **LMG** | Analyst: | **LMG** |
| Units: | **ug/L** | | | | |



| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | Spike | RPD |
| 75-71-8 | Dichlorodifluoromethane | 10 | 8.8 | **88** % | 10 | 8.3 | **83** % | **6** % | 70 - 130 % | 20% |
| 74-87-3 | Chloromethane | 10 | 9.1 | **91** % | 10 | 8.4 | **84** % | **8** % | 70 - 130 % | 20% |
| 75-01-4 | Vinyl Chloride | 10 | 9.1 | **91** % | 10 | 9.0 | **90** % | **1** % | 70 - 130 % | 20% |
| 74-83-9 | Bromomethane | 10 | 9.3 | **93** % | 10 | 9.0 | **90** % | **4** % | 70 - 130 % | 20% |
| 75-00-3 | Chloroethane | 10 | 8.5 | **85** % | 10 | 8.3 | **83** % | **2** % | 70 - 130 % | 20% |
| 75-69-4 | Trichlorofluoromethane | 10 | 8.8 | **88** % | 10 | 8.7 | **87** % | **1** % | 70 - 130 % | 20% |
| 60-29-7 | Diethyl Ether | 20 | 17 | **86** % | 20 | 17 | **87** % | **1** % | 70 - 130 % | 20% |
| 75-35-4 | 1,1-Dichloroethene | 10 | 9.2 | **92** % | 10 | 9.3 | **93** % | **1** % | 70 - 130 % | 20% |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 20 | 20 | **100** % | 20 | 20 | **101** % | **1** % | 70 - 130 % | 20% |
| 67-64-1 | Acetone | 20 | 19 | **96** % | 20 | 20 | **100** % | **4** % | 70 - 130 % | 20% |
| 75-15-0 | Carbon Disulfide | 20 | 17 | **87** % | 20 | 18 | **89** % | **2** % | 70 - 130 % | 20% |
| 75-09-2 | Methylene Chloride | 10 | 8.5 | **85** % | 10 | 8.6 | **86** % | **1** % | 70 - 130 % | 20% |
| 107-13-1 | Acrylonitrile | 10 | 9.2 | **92** % | 10 | 9.0 | **90** % | **2** % | 70 - 130 % | 20% |
| 156-60-5 | *trans*- 1,2-Dichloroethene | 10 | 9.3 | **93** % | 10 | 9.3 | **93** % | **0** % | 70 - 130 % | 20% |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | 10 | 9.8 | **98** % | 10 | 10 | **101** % | **3** % | 70 - 130 % | 20% |
| 75-34-3 | 1,1-Dichloroethane | 10 | 9.1 | **91** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 594-20-7 | 2,2-Dichloropropane | 10 | 9.7 | **97** % | 10 | 9.8 | **98** % | **1** % | 70 - 130 % | 20% |
| 156-59-2 | *cis*- 1,2-Dichloroethene | 10 | 9.3 | **93** % | 10 | 9.4 | **94** % | **1** % | 70 - 130 % | 20% |
| 78-93-3 | 2-Butanone (MEK) | 20 | 18 | **88** % | 20 | 18 | **92** % | **5** % | 70 - 130 % | 20% |
| 74-97-5 | Bromochloromethane | 10 | 9.4 | **94** % | 10 | 9.2 | **92** % | **3** % | 70 - 130 % | 20% |
| 109-99-9 | Tetrahydrofuran (THF) | 20 | 19 | **96** % | 20 | 19 | **94** % | **2** % | 70 - 130 % | 20% |
| 67-66-3 | Chloroform | 10 | 9.2 | **92** % | 10 | 9.3 | **93** % | **1** % | 70 - 130 % | 20% |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | 9.0 | **90** % | 10 | 9.1 | **91** % | **1** % | 70 - 130 % | 20% |
| 56-23-5 | Carbon Tetrachloride | 10 | 8.3 | **83** % | 10 | 8.6 | **86** % | **3** % | 70 - 130 % | 20% |
| 563-58-6 | 1,1-Dichloropropene | 10 | 9.1 | **91** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 71-43-2 | Benzene | 10 | 9.1 | **91** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 107-06-2 | 1,2-Dichloroethane | 10 | 8.9 | **89** % | 10 | 8.9 | **89** % | **0** % | 70 - 130 % | 20% |
| 79-01-6 | Trichloroethene | 10 | 8.8 | **88** % | 10 | 9.0 | **90** % | **2** % | 70 - 130 % | 20% |
| 78-87-5 | 1,2-Dichloropropane | 10 | 9.0 | **90** % | 10 | 9.1 | **91** % | **2** % | 70 - 130 % | 20% |
| 74-95-3 | Dibromomethane | 10 | 9.2 | **92** % | 10 | 9.4 | **94** % | **2** % | 70 - 130 % | 20% |
| 75-27-4 | Bromodichloromethane | 10 | 9.5 | **95** % | 10 | 9.7 | **97** % | **3** % | 70 - 130 % | 20% |
| 123-91-1 | 1,4-Dioxane | 200 | 160 | **78** % | 200 | 200 | **100** % | **25** % q | 70 - 130 % | 20% |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | 10 | 8.3 | **83** % | 10 | 8.8 | **88** % | **6** % | 70 - 130 % | 20% |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 20 | 20 | **101** % | 20 | 20 | **101** % | **0** % | 70 - 130 % | 20% |
| 108-88-3 | Toluene | 10 | 9.2 | **92** % | 10 | 9.3 | **93** % | **2** % | 70 - 130 % | 20% |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | 10 | 8.9 | **89** % | 10 | 9.3 | **93** % | **4** % | 70 - 130 % | 20% |
| 79-00-5 | 1,1,2-Trichloroethane | 10 | 9.8 | **98** % | 10 | 10 | **101** % | **3** % | 70 - 130 % | 20% |
| 127-18-4 | Tetrachloroethene | 10 | 9.8 | **98** % | 10 | 10 | **101** % | **2** % | 70 - 130 % | 20% |
| 142-28-9 | 1,3-Dichloropropane | 10 | 10 | **103** % | 10 | 10 | **105** % | **2** % | 70 - 130 % | 20% |
| 591-78-6 | 2-Hexanone | 20 | 22 | **109** % | 20 | 23 | **114** % | **4** % | 70 - 130 % | 20% |
| 124-48-1 | Dibromochloromethane | 10 | 8.5 | **85** % | 10 | 8.6 | **86** % | **2** % | 70 - 130 % | 20% |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 10 | 10 | **104** % | 10 | 11 | **108** % | **5** % | 70 - 130 % | 20% |
| 108-90-7 | Chlorobenzene | 10 | 9.6 | **96** % | 10 | 9.9 | **99** % | **3** % | 70 - 130 % | 20% |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 10 | 10 | **100** % | 10 | 11 | **107** % | **6** % | 70 - 130 % | 20% |
| 100-41-4 | Ethylbenzene | 10 | 10 | **101** % | 10 | 10 | **103** % | **2** % | 70 - 130 % | 20% |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | 20 | 20 | **98** % | 20 | 20 | **102** % | **4** % | 70 - 130 % | 20% |
| 95-47-6 | *ortho*- Xylene | 10 | 9.8 | **98** % | 10 | 10 | **101** % | **3** % | 70 - 130 % | 20% |
| 100-42-5 | Styrene | 10 | 9.0 | **90** % | 10 | 9.3 | **93** % | **3** % | 70 - 130 % | 20% |
| 75-25-2 | Bromoform | 10 | 8.1 | **81** % | 10 | 8.2 | **82** % | **0** % | 70 - 130 % | 20% |

GROUNDWATER ANALYTICAL

# Quality Control Report
## Laboratory Control Samples

| | | LCS | | LCSD | |
|---|---|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1163-W** | Analyzed: | **10-27-10 06:52** | Analyzed: | **10-27-10 07:16** |
| Matrix: | **Aqueous** | Analyst: | **LMG** | Analyst: | **LMG** |
| Units: | **ug/L** | | | | |



| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | Spike | RPD |
| 98-82-8 | Isopropylbenzene | 10 | 7.1 | **71** % | 10 | 8.5 | **85** % | **18** % | 70 - 130 % | 20% |
| 108-86-1 | Bromobenzene | 10 | 8.1 | **81** % | 10 | 10 | **101** % | **21** % q | 70 - 130 % | 20% |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 10 | 8.2 | **82** % | 10 | 9.8 | **98** % | **18** % | 70 - 130 % | 20% |
| 96-18-4 | 1,2,3-Trichloropropane | 10 | 8.1 | **81** % | 10 | 9.7 | **97** % | **17** % | 70 - 130 % | 20% |
| 110-57-6 | *trans*-1,4-Dichloro-2-butene | 200 | 170 | **87** % | 200 | 200 | **100** % | **14** % | 70 - 130 % | 20% |
| 103-65-1 | *n*-Propylbenzene | 10 | 8.1 | **81** % | 10 | 9.9 | **99** % | **20** % | 70 - 130 % | 20% |
| 95-49-8 | 2-Chlorotoluene | 10 | 7.9 | **79** % | 10 | 9.6 | **96** % | **19** % | 70 - 130 % | 20% |
| 108-67-8 | 1,3,5-Trimethylbenzene | 10 | 9.2 | **92** % | 10 | 10 | **102** % | **9** % | 70 - 130 % | 20% |
| 106-43-4 | 4-Chlorotoluene | 10 | 7.6 | **76** % | 10 | 9.3 | **93** % | **21** % q | 70 - 130 % | 20% |
| 98-06-6 | *tert*-Butylbenzene | 10 | 9.3 | **93** % | 10 | 9.7 | **97** % | **4** % | 70 - 130 % | 20% |
| 95-63-6 | 1,2,4-Trimethylbenzene | 10 | 9.9 | **99** % | 10 | 10 | **105** % | **6** % | 70 - 130 % | 20% |
| 135-98-8 | *sec*-Butylbenzene | 10 | 9.2 | **92** % | 10 | 9.8 | **98** % | **7** % | 70 - 130 % | 20% |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | 9.0 | **90** % | 10 | 9.5 | **95** % | **6** % | 70 - 130 % | 20% |
| 99-87-6 | 4-Isopropyltoluene | 10 | 8.7 | **87** % | 10 | 9.2 | **92** % | **5** % | 70 - 130 % | 20% |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | 8.9 | **89** % | 10 | 9.2 | **92** % | **3** % | 70 - 130 % | 20% |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | 9.1 | **91** % | 10 | 9.3 | **93** % | **3** % | 70 - 130 % | 20% |
| 104-51-8 | *n*-Butylbenzene | 10 | 9.6 | **96** % | 10 | 10 | **102** % | **6** % | 70 - 130 % | 20% |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 10 | 8.4 | **84** % | 10 | 9.5 | **95** % | **12** % | 70 - 130 % | 20% |
| 108-70-3 | 1,3,5-Trichlorobenzene | 10 | 7.8 | **78** % | 10 | 9.5 | **95** % | **20** % | 70 - 130 % | 20% |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | 7.7 | **77** % | 10 | 9.6 | **96** % | **22** % q | 70 - 130 % | 20% |
| 87-68-3 | Hexachlorobutadiene | 10 | 7.0 | **70** % | 10 | 8.7 | **87** % | **21** % q | 70 - 130 % | 20% |
| 91-20-3 | Naphthalene | 10 | 8.1 | **81** % | 10 | 9.9 | **99** % | **20** % | 70 - 130 % | 20% |
| 87-61-6 | 1,2,3-Trichlorobenzene | 10 | 7.7 | **77** % | 10 | 9.6 | **96** % | **22** % q | 70 - 130 % | 20% |
| 75-65-0 | *tert*-Butyl Alcohol (TBA) | 200 | 150 | **76** % | 200 | 160 | **80** % | **5** % | 70 - 130 % | 20% |
| 108-20-3 | Di-isopropyl Ether (DIPE) | 10 | 8.4 | **84** % | 10 | 8.5 | **85** % | **1** % | 70 - 130 % | 20% |
| 637-92-3 | Ethyl *tert*-butyl Ether (ETBE) | 10 | 8.6 | **86** % | 10 | 8.7 | **87** % | **0** % | 70 - 130 % | 20% |
| 994-05-8 | *tert*-Amyl Methyl Ether (TAME) | 10 | 8.0 | **80** % | 10 | 8.2 | **82** % | **2** % | 70 - 130 % | 20% |

| QC Surrogate Compound | Spiked | Measured | Recovery | Spiked | Measured | Recovery | | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **101** % | 10 | 10 | **104** % | | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **100** % | 10 | 10 | **100** % | | 70 - 130 % |
| Toluene-$d_8$ | 10 | 11 | **107** % | 10 | 11 | **108** % | | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 9 | **90** % | 10 | 11 | **108** % | | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

# Quality Control Report
## Method Blank

| | | | |
|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1163-W** | Analyzed: | **10-27-10 07:53** |
| Matrix: | **Aqueous** | Analyst: | **LMG** |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 0.5 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 0.5 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 0.5 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 0.5 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 0.5 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 0.5 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 2 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 0.5 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 5 |
| 67-64-1 | Acetone | BRL | | ug/L | 10 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 5 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 3 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 3 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 0.5 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 0.5 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 5 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 0.5 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 5 |
| 67-66-3 | Chloroform | BRL | | ug/L | 0.5 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 0.5 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 0.5 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 0.5 |
| 71-43-2 | Benzene | BRL | | ug/L | 0.5 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 0.5 |
| 79-01-6 | Trichloroethene | BRL | | ug/L | 0.5 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 0.5 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 0.5 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 500 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 5 |
| 108-88-3 | Toluene | BRL | | ug/L | 0.5 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 0.5 |
| 127-18-4 | Tetrachloroethene | BRL | | ug/L | 0.5 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 0.5 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 5 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 0.5 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 0.5 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 0.5 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 0.5 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 0.5 |
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 0.5 |
| 100-42-5 | Styrene | BRL | | ug/L | 0.5 |
| 75-25-2 | Bromoform | BRL | | ug/L | 0.5 |

GROUNDWATER ANALYTICAL

# Quality Control Report
## Method Blank

| | | | |
|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1163-W** | Analyzed: | **10-27-10 07:53** |
| Matrix: | **Aqueous** | Analyst: | **LMG** |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 0.5 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 0.5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 0.5 |
| 110-57-6 | *trans*-1,4-Dichloro-2-butene | BRL | | ug/L | 25 |
| 103-65-1 | *n*-Propylbenzene | BRL | | ug/L | 0.5 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 0.5 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 0.5 |
| 98-06-6 | *tert*-Butylbenzene | BRL | | ug/L | 0.5 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 135-98-8 | *sec*-Butylbenzene | BRL | | ug/L | 0.5 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 0.5 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 104-51-8 | *n*-Butylbenzene | BRL | | ug/L | 0.5 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 0.5 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 0.5 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 0.5 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 75-65-0 | *tert*-Butyl Alcohol (TBA) | BRL | | ug/L | 20 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 0.5 |
| 637-92-3 | Ethyl *tert*-butyl Ether (ETBE) | BRL | | ug/L | 0.5 |
| 994-05-8 | *tert*-Amyl Methyl Ether (TAME) | BRL | | ug/L | 0.5 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 10 | **102** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **104** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 11 | **107** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 11 | **111** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

# Quality Control Report
## Laboratory Control Samples

| | | LCS | | LCSD | |
|---|---|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1165-W** | Analyzed: | **10-29-10 07:54** | Analyzed: | **10-29-10 08:17** |
| Matrix: | **Aqueous** | Analyst: | **LMG** | Analyst: | **LMG** |
| Units: | **ug/L** | | | | |



| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | Spike | RPD |
| 75-71-8 | Dichlorodifluoromethane | 10 | 10 | **100** % | 10 | 9.5 | **95** % | **5** % | 70 - 130 % | 20% |
| 74-87-3 | Chloromethane | 10 | 9.7 | **97** % | 10 | 9.3 | **93** % | **4** % | 70 - 130 % | 20% |
| 75-01-4 | Vinyl Chloride | 10 | 12 | **115** % | 10 | 11 | **111** % | **4** % | 70 - 130 % | 20% |
| 74-83-9 | Bromomethane | 10 | 11 | **110** % | 10 | 12 | **124** % | **12** % | 70 - 130 % | 20% |
| 75-00-3 | Chloroethane | 10 | 10 | **100** % | 10 | 11 | **110** % | **9** % | 70 - 130 % | 20% |
| 75-69-4 | Trichlorofluoromethane | 10 | 10 | **102** % | 10 | 11 | **106** % | **4** % | 70 - 130 % | 20% |
| 60-29-7 | Diethyl Ether | 20 | 18 | **92** % | 20 | 20 | **98** % | **7** % | 70 - 130 % | 20% |
| 75-35-4 | 1,1-Dichloroethene | 10 | 9.3 | **93** % | 10 | 9.0 | **90** % | **3** % | 70 - 130 % | 20% |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 20 | 23 | **115** % | 20 | 22 | **112** % | **3** % | 70 - 130 % | 20% |
| 67-64-1 | Acetone | 20 | 24 | **121** % | 20 | 24 | **118** % | **3** % | 70 - 130 % | 20% |
| 75-15-0 | Carbon Disulfide | 20 | 19 | **94** % | 20 | 18 | **92** % | **2** % | 70 - 130 % | 20% |
| 75-09-2 | Methylene Chloride | 10 | 10 | **104** % | 10 | 10 | **102** % | **2** % | 70 - 130 % | 20% |
| 107-13-1 | Acrylonitrile | 10 | 12 | **120** % | 10 | 12 | **119** % | **1** % | 70 - 130 % | 20% |
| 156-60-5 | *trans*- 1,2-Dichloroethene | 10 | 9.5 | **95** % | 10 | 9.6 | **96** % | **1** % | 70 - 130 % | 20% |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | 10 | 10 | **104** % | 10 | 11 | **105** % | **1** % | 70 - 130 % | 20% |
| 75-34-3 | 1,1-Dichloroethane | 10 | 10 | **100** % | 10 | 9.8 | **98** % | **3** % | 70 - 130 % | 20% |
| 594-20-7 | 2,2-Dichloropropane | 10 | 10 | **103** % | 10 | 10 | **104** % | **1** % | 70 - 130 % | 20% |
| 156-59-2 | *cis*- 1,2-Dichloroethene | 10 | 10 | **101** % | 10 | 10 | **101** % | **0** % | 70 - 130 % | 20% |
| 78-93-3 | 2-Butanone (MEK) | 20 | 20 | **102** % | 20 | 19 | **95** % | **7** % | 70 - 130 % | 20% |
| 74-97-5 | Bromochloromethane | 10 | 9.9 | **99** % | 10 | 9.8 | **98** % | **1** % | 70 - 130 % | 20% |
| 109-99-9 | Tetrahydrofuran (THF) | 20 | 22 | **110** % | 20 | 22 | **112** % | **2** % | 70 - 130 % | 20% |
| 67-66-3 | Chloroform | 10 | 9.8 | **98** % | 10 | 9.9 | **99** % | **1** % | 70 - 130 % | 20% |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | 9.6 | **96** % | 10 | 9.9 | **99** % | **3** % | 70 - 130 % | 20% |
| 56-23-5 | Carbon Tetrachloride | 10 | 8.8 | **88** % | 10 | 8.7 | **87** % | **2** % | 70 - 130 % | 20% |
| 563-58-6 | 1,1-Dichloropropene | 10 | 9.4 | **94** % | 10 | 9.3 | **93** % | **1** % | 70 - 130 % | 20% |
| 71-43-2 | Benzene | 10 | 9.9 | **99** % | 10 | 9.8 | **98** % | **1** % | 70 - 130 % | 20% |
| 107-06-2 | 1,2-Dichloroethane | 10 | 9.8 | **98** % | 10 | 10 | **102** % | **4** % | 70 - 130 % | 20% |
| 79-01-6 | Trichloroethene | 10 | 9.4 | **94** % | 10 | 9.2 | **92** % | **2** % | 70 - 130 % | 20% |
| 78-87-5 | 1,2-Dichloropropane | 10 | 9.9 | **99** % | 10 | 9.7 | **97** % | **2** % | 70 - 130 % | 20% |
| 74-95-3 | Dibromomethane | 10 | 9.8 | **98** % | 10 | 9.6 | **96** % | **2** % | 70 - 130 % | 20% |
| 75-27-4 | Bromodichloromethane | 10 | 9.8 | **98** % | 10 | 9.7 | **97** % | **1** % | 70 - 130 % | 20% |
| 123-91-1 | 1,4-Dioxane | 200 | 210 | **103** % | 200 | 240 | **120** % | **15** % | 70 - 130 % | 20% |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | 10 | 8.5 | **85** % | 10 | 8.5 | **85** % | **0** % | 70 - 130 % | 20% |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 20 | 22 | **108** % | 20 | 23 | **117** % | **7** % | 70 - 130 % | 20% |
| 108-88-3 | Toluene | 10 | 9.9 | **99** % | 10 | 11 | **112** % | **12** % | 70 - 130 % | 20% |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | 10 | 7.5 | **75** % | 10 | 10 | **101** % | **29** % q | 70 - 130 % | 20% |
| 79-00-5 | 1,1,2-Trichloroethane | 10 | 8.9 | **89** % | 10 | 12 | **120** % | **30** % q | 70 - 130 % | 20% |
| 127-18-4 | Tetrachloroethene | 10 | 9.8 | **98** % | 10 | 12 | **118** % | **18** % | 70 - 130 % | 20% |
| 142-28-9 | 1,3-Dichloropropane | 10 | 9.1 | **91** % | 10 | 12 | **119** % | **27** % q | 70 - 130 % | 20% |
| 591-78-6 | 2-Hexanone | 20 | 19 | **97** % | 20 | 25 | **126** % | **26** % q | 70 - 130 % | 20% |
| 124-48-1 | Dibromochloromethane | 10 | 7.2 | **72** % | 10 | 9.7 | **97** % | **30** % q | 70 - 130 % | 20% |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 10 | 10 | **104** % | 10 | 12 | **121** % | **15** % | 70 - 130 % | 20% |
| 108-90-7 | Chlorobenzene | 10 | 11 | **115** % | 10 | 10 | **101** % | **13** % | 70 - 130 % | 20% |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 10 | 12 | **121** % | 10 | 11 | **106** % | **13** % | 70 - 130 % | 20% |
| 100-41-4 | Ethylbenzene | 10 | 11 | **115** % | 10 | 11 | **106** % | **9** % | 70 - 130 % | 20% |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | 20 | 24 | **119** % | 20 | 21 | **106** % | **12** % | 70 - 130 % | 20% |
| 95-47-6 | *ortho*- Xylene | 10 | 12 | **119** % | 10 | 11 | **106** % | **12** % | 70 - 130 % | 20% |
| 100-42-5 | Styrene | 10 | 10 | **104** % | 10 | 9.2 | **92** % | **13** % | 70 - 130 % | 20% |
| 75-25-2 | Bromoform | 10 | 9.3 | **93** % | 10 | 8.0 | **80** % | **16** % | 70 - 130 % | 20% |

GROUNDWATER ANALYTICAL

# Quality Control Report
## Laboratory Control Samples

| | | LCS | | LCSD | |
|---|---|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1165-W** | Analyzed: | **10-29-10 07:54** | Analyzed: | **10-29-10 08:17** |
| Matrix: | **Aqueous** | Analyst: | **LMG** | Analyst: | **LMG** |
| Units: | **ug/L** | | | | |



| CAS Number | Analyte | LCS | | | LCS Duplicate | | | | QC Limits | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Spiked | Measured | Recovery | Spiked | Measured | Recovery | RPD | Spike | RPD |
| 98-82-8 | Isopropylbenzene | 10 | 8.3 | **83** % | 10 | 8.8 | **88** % | **6** % | 70 - 130 % | 20% |
| 108-86-1 | Bromobenzene | 10 | 10 | **100** % | 10 | 9.6 | **96** % | **4** % | 70 - 130 % | 20% |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 10 | 9.5 | **95** % | 10 | 10 | **104** % | **9** % | 70 - 130 % | 20% |
| 96-18-4 | 1,2,3-Trichloropropane | 10 | 9.7 | **97** % | 10 | 10 | **103** % | **6** % | 70 - 130 % | 20% |
| 110-57-6 | *trans*-1,4-Dichloro-2-butene | 200 | 250 | **123** % | 200 | 270 | **134** % q | **9** % | 70 - 130 % | 20% |
| 103-65-1 | *n*-Propylbenzene | 10 | 9.5 | **95** % | 10 | 10 | **102** % | **8** % | 70 - 130 % | 20% |
| 95-49-8 | 2-Chlorotoluene | 10 | 9.6 | **96** % | 10 | 9.8 | **98** % | **3** % | 70 - 130 % | 20% |
| 108-67-8 | 1,3,5-Trimethylbenzene | 10 | 9.8 | **98** % | 10 | 10 | **104** % | **6** % | 70 - 130 % | 20% |
| 106-43-4 | 4-Chlorotoluene | 10 | 9.4 | **94** % | 10 | 9.4 | **94** % | **1** % | 70 - 130 % | 20% |
| 98-06-6 | *tert*-Butylbenzene | 10 | 9.6 | **96** % | 10 | 9.8 | **98** % | **2** % | 70 - 130 % | 20% |
| 95-63-6 | 1,2,4-Trimethylbenzene | 10 | 10 | **102** % | 10 | 11 | **109** % | **6** % | 70 - 130 % | 20% |
| 135-98-8 | *sec*-Butylbenzene | 10 | 9.6 | **96** % | 10 | 10 | **101** % | **5** % | 70 - 130 % | 20% |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | 9.8 | **98** % | 10 | 9.8 | **98** % | **0** % | 70 - 130 % | 20% |
| 99-87-6 | 4-Isopropyltoluene | 10 | 9.2 | **92** % | 10 | 9.4 | **94** % | **1** % | 70 - 130 % | 20% |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | 9.6 | **96** % | 10 | 9.6 | **96** % | **0** % | 70 - 130 % | 20% |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | 9.5 | **95** % | 10 | 9.6 | **96** % | **1** % | 70 - 130 % | 20% |
| 104-51-8 | *n*-Butylbenzene | 10 | 9.6 | **96** % | 10 | 11 | **106** % | **10** % | 70 - 130 % | 20% |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 10 | 8.1 | **81** % | 10 | 9.3 | **93** % | **14** % | 70 - 130 % | 20% |
| 108-70-3 | 1,3,5-Trichlorobenzene | 10 | 10 | **104** % | 10 | 9.7 | **97** % | **7** % | 70 - 130 % | 20% |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | 10 | **102** % | 10 | 9.3 | **93** % | **9** % | 70 - 130 % | 20% |
| 87-68-3 | Hexachlorobutadiene | 10 | 9.9 | **99** % | 10 | 9.0 | **90** % | **10** % | 70 - 130 % | 20% |
| 91-20-3 | Naphthalene | 10 | 10 | **101** % | 10 | 10 | **101** % | **0** % | 70 - 130 % | 20% |
| 87-61-6 | 1,2,3-Trichlorobenzene | 10 | 10 | **104** % | 10 | 9.6 | **96** % | **9** % | 70 - 130 % | 20% |
| 75-65-0 | *tert*-Butyl Alcohol (TBA) | 200 | 190 | **93** % | 200 | 180 | **90** % | **4** % | 70 - 130 % | 20% |
| 108-20-3 | Di-isopropyl Ether (DIPE) | 10 | 9.3 | **93** % | 10 | 9.2 | **92** % | **1** % | 70 - 130 % | 20% |
| 637-92-3 | Ethyl *tert*-butyl Ether (ETBE) | 10 | 9.1 | **91** % | 10 | 9.1 | **91** % | **0** % | 70 - 130 % | 20% |
| 994-05-8 | *tert*-Amyl Methyl Ether (TAME) | 10 | 8.5 | **85** % | 10 | 8.4 | **84** % | **1** % | 70 - 130 % | 20% |

| QC Surrogate Compound | Spiked | Measured | Recovery | Spiked | Measured | Recovery | | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 10 | 9 | **95** % | 10 | 9 | **92** % | | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 10 | **96** % | 10 | 10 | **103** % | | 70 - 130 % |
| Toluene-$d_8$ | 10 | 9 | **90** % | 10 | 10 | **103** % | | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 9 | **90** % | 10 | 10 | **97** % | | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

# Quality Control Report
## Method Blank

| | | | |
|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1165-W** | Analyzed: | **10-29-10 08:53** |
| Matrix: | **Aqueous** | Analyst: | **LMG** |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | BRL | | ug/L | 0.5 |
| 74-87-3 | Chloromethane | BRL | | ug/L | 0.5 |
| 75-01-4 | Vinyl Chloride | BRL | | ug/L | 0.5 |
| 74-83-9 | Bromomethane | BRL | | ug/L | 0.5 |
| 75-00-3 | Chloroethane | BRL | | ug/L | 0.5 |
| 75-69-4 | Trichlorofluoromethane | BRL | | ug/L | 0.5 |
| 60-29-7 | Diethyl Ether | BRL | | ug/L | 2 |
| 75-35-4 | 1,1-Dichloroethene | BRL | | ug/L | 0.5 |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | BRL | | ug/L | 5 |
| 67-64-1 | Acetone | BRL | | ug/L | 10 |
| 75-15-0 | Carbon Disulfide | BRL | | ug/L | 5 |
| 75-09-2 | Methylene Chloride | BRL | | ug/L | 3 |
| 107-13-1 | Acrylonitrile | BRL | | ug/L | 3 |
| 156-60-5 | *trans*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 1634-04-4 | Methyl *tert*- butyl Ether (MTBE) | BRL | | ug/L | 0.5 |
| 75-34-3 | 1,1-Dichloroethane | BRL | | ug/L | 0.5 |
| 594-20-7 | 2,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 156-59-2 | *cis*- 1,2-Dichloroethene | BRL | | ug/L | 0.5 |
| 78-93-3 | 2-Butanone (MEK) | BRL | | ug/L | 5 |
| 74-97-5 | Bromochloromethane | BRL | | ug/L | 0.5 |
| 109-99-9 | Tetrahydrofuran (THF) | BRL | | ug/L | 5 |
| 67-66-3 | Chloroform | BRL | | ug/L | 0.5 |
| 71-55-6 | 1,1,1-Trichloroethane | BRL | | ug/L | 0.5 |
| 56-23-5 | Carbon Tetrachloride | BRL | | ug/L | 0.5 |
| 563-58-6 | 1,1-Dichloropropene | BRL | | ug/L | 0.5 |
| 71-43-2 | Benzene | BRL | | ug/L | 0.5 |
| 107-06-2 | 1,2-Dichloroethane | BRL | | ug/L | 0.5 |
| 79-01-6 | Trichloroethene | BRL | | ug/L | 0.5 |
| 78-87-5 | 1,2-Dichloropropane | BRL | | ug/L | 0.5 |
| 74-95-3 | Dibromomethane | BRL | | ug/L | 0.5 |
| 75-27-4 | Bromodichloromethane | BRL | | ug/L | 0.5 |
| 123-91-1 | 1,4-Dioxane | BRL | | ug/L | 500 |
| 10061-01-5 | *cis*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | BRL | | ug/L | 5 |
| 108-88-3 | Toluene | BRL | | ug/L | 0.5 |
| 10061-02-6 | *trans*- 1,3-Dichloropropene | BRL | | ug/L | 0.4 |
| 79-00-5 | 1,1,2-Trichloroethane | BRL | | ug/L | 0.5 |
| 127-18-4 | Tetrachloroethene | BRL | | ug/L | 0.5 |
| 142-28-9 | 1,3-Dichloropropane | BRL | | ug/L | 0.5 |
| 591-78-6 | 2-Hexanone | BRL | | ug/L | 5 |
| 124-48-1 | Dibromochloromethane | BRL | | ug/L | 0.5 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | BRL | | ug/L | 0.5 |
| 108-90-7 | Chlorobenzene | BRL | | ug/L | 0.5 |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 100-41-4 | Ethylbenzene | BRL | | ug/L | 0.5 |
| 108-38-3/106-42-3 | *meta*- Xylene and *para*- Xylene | BRL | | ug/L | 0.5 |
| 95-47-6 | *ortho*- Xylene | BRL | | ug/L | 0.5 |
| 100-42-5 | Styrene | BRL | | ug/L | 0.5 |
| 75-25-2 | Bromoform | BRL | | ug/L | 0.5 |

GROUNDWATER ANALYTICAL

# Quality Control Report
## Method Blank

| | | | |
|---|---|---|---|
| Category: | **EPA Method 8260B** | Instrument ID: | **MS-10 HP 6890** |
| QC Batch ID: | **VM10-1165-W** | Analyzed: | **10-29-10 08:53** |
| Matrix: | **Aqueous** | Analyst: | **LMG** |



| CAS Number | Analyte | Concentration | Notes | Units | Reporting Limit |
|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | BRL | | ug/L | 0.5 |
| 108-86-1 | Bromobenzene | BRL | | ug/L | 0.5 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | BRL | | ug/L | 0.5 |
| 96-18-4 | 1,2,3-Trichloropropane | BRL | | ug/L | 0.5 |
| 110-57-6 | *trans*-1,4-Dichloro-2-butene | BRL | | ug/L | 25 |
| 103-65-1 | *n*-Propylbenzene | BRL | | ug/L | 0.5 |
| 95-49-8 | 2-Chlorotoluene | BRL | | ug/L | 0.5 |
| 108-67-8 | 1,3,5-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 106-43-4 | 4-Chlorotoluene | BRL | | ug/L | 0.5 |
| 98-06-6 | *tert*-Butylbenzene | BRL | | ug/L | 0.5 |
| 95-63-6 | 1,2,4-Trimethylbenzene | BRL | | ug/L | 0.5 |
| 135-98-8 | *sec*-Butylbenzene | BRL | | ug/L | 0.5 |
| 541-73-1 | 1,3-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 99-87-6 | 4-Isopropyltoluene | BRL | | ug/L | 0.5 |
| 106-46-7 | 1,4-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 95-50-1 | 1,2-Dichlorobenzene | BRL | | ug/L | 0.5 |
| 104-51-8 | *n*-Butylbenzene | BRL | | ug/L | 0.5 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | BRL | | ug/L | 0.5 |
| 108-70-3 | 1,3,5-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 120-82-1 | 1,2,4-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 87-68-3 | Hexachlorobutadiene | BRL | | ug/L | 0.5 |
| 91-20-3 | Naphthalene | BRL | | ug/L | 0.5 |
| 87-61-6 | 1,2,3-Trichlorobenzene | BRL | | ug/L | 0.5 |
| 75-65-0 | *tert*-Butyl Alcohol (TBA) | BRL | | ug/L | 20 |
| 108-20-3 | Di-isopropyl Ether (DIPE) | BRL | | ug/L | 0.5 |
| 637-92-3 | Ethyl *tert*-butyl Ether (ETBE) | BRL | | ug/L | 0.5 |
| 994-05-8 | *tert*-Amyl Methyl Ether (TAME) | BRL | | ug/L | 0.5 |

| QC Surrogate Compound | Spiked | Measured | Recovery | QC Limits |
|---|---|---|---|---|
| Dibromofluoromethane | 10 | 9 | **91** % | 70 - 130 % |
| 1,2-Dichloroethane-$d_4$ | 10 | 9 | **93** % | 70 - 130 % |
| Toluene-$d_8$ | 10 | 12 | **118** % | 70 - 130 % |
| 4-Bromofluorobenzene | 10 | 10 | **104** % | 70 - 130 % |

**Method Reference:** Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

**Report Notations:** BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

GROUNDWATER ANALYTICAL

## Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.
Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

### CONNECTICUT

**Department of Health Services, PH-0586** — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

### MASSACHUSETTS

**Department of Environmental Protection, M-MA-103** — Potable Water and Non-Potable Water
http://public.dep.state.ma.us/labcert/labcert.aspx

**Department of Labor,**
**Division of Occupational Safety, AA000195** — Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt list aa.pdf

### NEW HAMPSHIRE

**Department of Environmental Services, 202708** — Potable Water, Non-Potable Water, Solid and Chemical Materials
http://www4.egov.nh.gov/DES/NHELAP

### NEW YORK

**Department of Health, 11754** — Potable Water, Non-Potable Water, Solid and Hazardous Waste
http://www.wadsworth.org/labcert/elap/comm.html

### RHODE ISLAND

**Department of Health,**
**Division of Laboratories, LAO00054** — Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
http://www.health.ri.gov/labs/outofstatelabs.pdf

### U.S. DEPARTMENT OF AGRICULTURE

**USDA, Soil Permit, S-53921** — Foreign soil import permit

### VERMONT

**Department of Health, VT-87643** — Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

GROUNDWATER ANALYTICAL

# Certifications and Approvals

| MASSACHUSETTS | Department of Environmental Protection, M-MA-103 |
|---|---|

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

**Potable Water (Drinking Water)**

| Analyte | Method |
|---|---|
| 1,2-Dibromo-3-Chloropropane | EPA 504.1 |
| 1,2-Dibromoethane | EPA 504.1 |
| Alkalinity, Total | SM 2320-B |
| Antimony | EPA 200.8 |
| Arsenic | EPA 200.8 |
| Barium | EPA 200.7 |
| Barium | EPA 200.8 |
| Beryllium | EPA 200.7 |
| Beryllium | EPA 200.8 |
| Cadmium | EPA 200.7 |
| Cadmium | EPA 200.8 |
| Calcium | EPA 200.7 |
| Chlorine, Residual Free | SM 4500-CL-G |
| Chromium | EPA 200.7 |
| Copper | EPA 200.7 |
| Copper | EPA 200.8 |
| Cyanide, Total | Lachat 10-204-00-1-A |
| E. Coli (Treatment and Distribution) | Enz. Sub. SM 9223 |
| E. Coli (Treatment and Distribution) | NA-MUG SM 9222-G |
| Fecal Coliform (Source Water) | MF SM 9222-D |
| Fluoride | EPA 300.0 |
| Fluoride | SM 4500-F-C |
| Haloacetic Acids | EPA 552.2 |
| Heterotrophic Plate Count | SM 9215-B |
| Lead | EPA 200.8 |
| Mercury | EPA 245.1 |
| Nickel | EPA 200.7 |
| Nickel | EPA 200.8 |
| Nitrate-N | EPA 300.0 |
| Nitrate-N | Lachat 10-107-04-1-C |
| Nitrite-N | EPA 300.0 |
| Nitrite-N | Lachat 10-107-04-1-C |
| pH | SM 4500-H-B |
| Selenium | EPA 200.8 |
| Silver | EPA 200.7 |
| Silver | EPA 200.8 |
| Sodium | EPA 200.7 |
| Sulfate | EPA 300.0 |
| Thallium | EPA 200.8 |
| Total Coliform (Treatment and Distribution) | Enz. Sub. SM 9223 |
| Total Coliform (Treatment and Distribution) | MF SM 9222-B |
| Total Dissolved Solids | SM 2540-C |
| Trihalomethanes | EPA 524.2 |
| Turbidity | SM 2130-B |
| Volatile Organic Compounds | EPA 524.2 |

**Non-Potable Water (Wastewater)**

| Analyte | Method |
|---|---|
| Aldrin | EPA 608 |
| Alkalinity, Total | SM 2320-B |
| Alpha-BHC | EPA 608 |
| Aluminum | EPA 200.7 |

**Non-Potable Water (Wastewater)**

| Analyte | Method |
|---|---|
| Aluminum | EPA 200.8 |
| Ammonia-N | Lachat 10-107-06-1-B |
| Antimony | EPA 200.7 |
| Antimony | EPA 200.8 |
| Arsenic | EPA 200.7 |
| Arsenic | EPA 200.8 |
| Beryllium | EPA 200.7 |
| Beryllium | EPA 200.8 |
| Beta-BHC | EPA 608 |
| Biochemical Oxygen Demand | SM 5210-B |
| Cadmium | EPA 200.7 |
| Cadmium | EPA 200.8 |
| Calcium | EPA 200.7 |
| Chemical Oxygen Demand | SM 5220-D |
| Chlordane | EPA 608 |
| Chloride | EPA 300.0 |
| Chlorine, Total Residual | SM 4500-CL-G |
| Chromium | EPA 200.7 |
| Chromium | EPA 200.8 |
| Cobalt | EPA 200.7 |
| Cobalt | EPA 200.8 |
| Copper | EPA 200.7 |
| Copper | EPA 200.8 |
| Cyanide, Total | Lachat 10-204-00-1-A |
| DDD | EPA 608 |
| DDE | EPA 608 |
| DDT | EPA 608 |
| Delta-BHC | EPA 608 |
| Dieldrin | EPA 608 |
| Endosulfan I | EPA 608 |
| Endosulfan II | EPA 608 |
| Endosulfan Sulfate | EPA 608 |
| Endrin | EPA 608 |
| Endrin Aldehyde | EPA 608 |
| Gamma-BHC | EPA 608 |
| Hardness (CaCO3), Total | EPA 200.7 |
| Hardness (CaCO3), Total | SM 2340-B |
| Heptachlor | EPA 608 |
| Heptachlor Epoxide | EPA 608 |
| Iron | EPA 200.7 |
| Kjeldahl-N | Lachat 10-107-06-02-D |
| Lead | EPA 200.7 |
| Magnesium | EPA 200.7 |
| Manganese | EPA 200.7 |
| Manganese | EPA 200.8 |
| Mercury | EPA 245.1 |
| Molybdenum | EPA 200.7 |
| Molybdenum | EPA 200.8 |
| Nickel | EPA 200.7 |
| Nickel | EPA 200.8 |
| Nitrate-N | EPA 300.0 |
| Nitrate-N | Lachat 10-107-04-1-C |
| Non-Filterable Residue | SM 2540-D |
| Oil and Grease | EPA 1664 |

GROUNDWATER ANALYTICAL

# Certifications and Approvals

| MASSACHUSETTS | Department of Environmental Protection, M-MA-103 |
|---|---|

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

**Non-Potable Water (Wastewater)**

| Analyte | Method |
|---|---|
| Orthophosphate | Lachat 10-115-01-1-A |
| pH | SM 4500-H-B |
| Phenolics, Total | EPA 420.4 |
| Phenolics, Total | Lachat 10-210-00-1-B |
| Phosphorus, Total | Lachat 10-115-01-1-C |
| Phosphorus, Total | SM 4500-P-B,E |
| Polychlorinated Biphenyls (Oil) | EPA 600/4-81-045 |
| Polychlorinated Biphenyls (Water) | EPA 608 |
| Potassium | EPA 200.7 |
| Selenium | EPA 200.7 |
| Selenium | EPA 200.8 |
| Silver | EPA 200.7 |
| Sodium | EPA 200.7 |
| Specific Conductivity | SM 2510-B |
| Strontium | EPA 200.7 |
| Sulfate | EPA 300.0 |
| SVOC-Acid Extractables | EPA 625 |
| SVOC-Base/Neutral Extractables | EPA 625 |
| Thallium | EPA 200.7 |
| Thallium | EPA 200.8 |
| Titanium | EPA 200.7 |
| Total Dissolved Solids | SM 2540-C |
| Total Organic Carbon | SM 5310-B |
| Toxaphene | EPA 608 |
| Vanadium | EPA 200.7 |
| Vanadium | EPA 200.8 |
| Volatile Aromatics | EPA 602 |
| Volatile Aromatics | EPA 624 |
| Volatile Halocarbons | EPA 624 |
| Zinc | EPA 200.7 |
| Zinc | EPA 200.8 |

# Raytheon, Wayland, MA
## Analytical Report

## Well Samples

Bioremediation & Treatability Center

Prepared By:
**BTC**
25 Spring Street,
Walpole, MA 02081-4301
Phone (508) 668-0191 • Fax (508) 668-5175

Sampled: 10/18/10-10/22/10
Analyzed: 10/19/10-10/27/10

Bioremediation & Treatability Center

25 Spring Street • Walpole, MA 02081-4301 •phone (508) 668-0191 • fax (508) 668-5175

October 27, 2010

IESI
Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring St.
Walpole, MA 02081-4301

RE: Analytical Data Report
Raytheon
Wayland, MA

Dear Mr. Fam,

Enclosed are the results of the sample(s) submitted to our laboratory on October 19-22, 2010.

All analyses were performed to our laboratory's quality assurance program. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. You may also contact me via email at G.Pon@Biotreatcenter.com

Respectfully submitted,
Bioremediation Treatability Center

George Pon
Laboratory Director

# *---Dissolved Gasses---*

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 11:30am |
| **Sample Received** | 10/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 3.2 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethylene | <0.3 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 10:46am |
| **Sample Received** | 10/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 4.3 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethylene | 1.0 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethane | 0.8 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/19/2010 | swd |

## *---Dissolved Gasses---*

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/10 |

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 314 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethylene | 1.7 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethane | 1.1 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 1:00pm |
| **Sample Received** | 10/19/10 |

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 190 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethylene | 8.1 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethane | 0.9 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/19/2010 | swd |

# *---Dissolved Gasses---*

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-3 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 2:00pm |
| **Sample Received** | 10/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissoved Gasses** | | | | | |
| Methane | 40.2 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethylene | 2.8 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethane | 1.3 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-101 |
| **Sampler** | dr |
| **Sample Date** | 10/22/10 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 255 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethylene | 6.3 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Ethane | 1.9 | µg/L | 0.3 µg/L | 10/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/19/2010 | swd |

## *---Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 10/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | <0.3 | µg/L | 0.3 µg/L | 10/22/2010 | swd |
| Ethylene | <0.3 | µg/L | 0.3 µg/L | 10/22/2010 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 10/22/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 10/22/2010 | swd |

## *---Hydrogen and CO2---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 11:30am |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <1 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | 25 | mg/L | 1 mg/L | 10/20/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 10:46am |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <1 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | 11 | mg/L | 1 mg/L | 10/20/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | RIW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <1 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | 17 | mg/L | 1 mg/L | 10/20/2010 | swd |

## *---Hydrogen and CO2---*

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | RIW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 1:00pm |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <1 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | 22 | mg/L | 1 mg/L | 10/20/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | RIW-3 |
| **Sampler** | sf |
| **Sample Date** | 10/18/10 |
| **Sample Time** | 2:00pm |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <1 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | 24 | mg/L | 1 mg/L | 10/20/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-101 |
| **Sampler** | dr |
| **Sample Date** | 10/22/10 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | 19.0 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | 24 | mg/L | 1 mg/L | 10/20/2010 | swd |

## *---Hydrogen and CO2---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 10/19/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <1 | µM | 1 µM | 10/20/2010 | swd |
| $CO_2$ Concentration | <1 | mg/L | 1 mg/L | 10/20/2010 | swd |

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 11:30am |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 4 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Sulfate | 19 | mg/L | 1 mg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 10:46am |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 8 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Sulfate | 44 | mg/L | 1 mg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 8 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Sulfate | 33 | mg/L | 1 mg/L | 10/19/2010 | swd |

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 1:00pm |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 8 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Sulfate | 33 | mg/L | 1 mg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-3 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 2:00pm |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 5 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Sulfate | 26 | mg/L | 1 mg/L | 10/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-101 |
| **Sampler** | dr |
| **Sample Date** | 10/22/2010 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 35 | mg/L | 1 mg/L | 10/20/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/20/2010 | swd |
| Sulfate | 43 | mg/L | 1 mg/L | 10/20/2010 | swd |

# ---Anions---

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 10/19/2010 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Sulfate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |

# ---Organic Acids---

Bioremediation & Treatability Center

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-1

**Sampler** sf
**Sample Date** 10/18/2010
**Sample Time** 11:30am
**Sample Received** 10/19/2010

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-2

**Sampler** sf
**Sample Date** 10/18/10
**Sample Time** 10:46am
**Sample Received** 10/19/10

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Butyrate | 5 | mg/L | 1 mg/L | 10/19/2010 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** RIW-1

**Sampler** sf
**Sample Date** 10/18/10
**Sample Time** 12:15pm
**Sample Received** 10/19/10

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |

# ---Organic Acids---

Bioremediation & Treatability Center

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** RIW-2

**Sampler** sf
**Sample Date** 10/18/10
**Sample Time** 1:00pm
**Sample Received** 10/19/10

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Butyrate | 2 | mg/L | 1 mg/L | 10/19/2010 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** RIW-3

**Sampler** sf
**Sample Date** 10/18/10
**Sample Time** 2:00pm
**Sample Received** 10/19/10

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** MW-101

**Sampler** dr
**Sample Date** 10/22/10
**Sample Time** 12:15pm
**Sample Received** 10/19/10

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/20/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/20/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/20/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 10/20/2010 | swd |

# *---Organic Acids---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 10/19/10 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 10/19/2010 | swd |

## ---Chemistries---

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 11:30am |
| **Sample Received** | 10/19/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 80 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | 1.10 | mg/L | HACH 8034 | 0.12 mg/L | 10/21/2010 | rdr |
| $NH_3$-N | 0.04 | mg/L | HACH 8155 | 0.02 mg/L | 10/19/2010 | rdr |
| $PO_4$ | 0.14 | mg/L | HACH 8048 | 0.05 mg/L | 10/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 2.23 | mg/L | HACH 8008 | 0.03 mg/L | 10/21/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 1.1 | mg/L | HACH 10173 | <0.3 mg/L | 10/19/2010 | swd |
| pH | 6.48 | pH units | pH probe | <0.01 pH units | 10/19/2010 | rdr |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 10:46am |
| **Sample Received** | 10/19/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 100 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | 0.70 | mg/L | HACH 8034 | 0.12 mg/L | 10/21/2010 | rdr |
| $NH_3$-N | 0.02 | mg/L | HACH 8155 | 0.02 mg/L | 10/19/2010 | rdr |
| $PO_4$ | 0.15 | mg/L | HACH 8048 | 0.05 mg/L | 10/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 1.23 | mg/L | HACH 8008 | 0.03 mg/L | 10/21/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 1.3 | mg/L | HACH 10173 | <0.3 mg/L | 10/19/2010 | swd |
| pH | 6.72 | pH units | pH probe | <0.01 pH units | 10/19/2010 | rdr |

## ---Chemistries---

Bioremediation & Treatability Center

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** RIW-1

**Sampler** sf
**Sample Date** 10/18/2010
**Sample Time** 12:15pm
**Sample Received** 10/19/2010

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 80 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | 0.20 | mg/L | HACH 8034 | 0.12 mg/L | 10/21/2010 | rdr |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 10/19/2010 | rdr |
| $PO_4$ | 0.11 | mg/L | HACH 8048 | 0.05 mg/L | 10/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 0.69 | mg/L | HACH 8008 | 0.03 mg/L | 10/21/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 1.6 | mg/L | HACH 10173 | <0.3 mg/L | 10/19/2010 | swd |
| pH | 6.48 | pH units | pH probe | <0.01 pH units | 10/19/2010 | rdr |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** RIW-2

**Sampler** sf
**Sample Date** 10/18/2010
**Sample Time** 1:00pm
**Sample Received** 10/19/2010

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 120 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | 1.60 | mg/L | HACH 8034 | 0.12 mg/L | 10/21/2010 | rdr |
| $NH_3$-N | 0.02 | mg/L | HACH 8155 | 0.02 mg/L | 10/19/2010 | rdr |
| $PO_4$ | 0.10 | mg/L | HACH 8048 | 0.05 mg/L | 10/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 0.92 | mg/L | HACH 8008 | 0.03 mg/L | 10/21/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 3.2 | mg/L | HACH 10173 | <0.3 mg/L | 10/19/2010 | swd |
| pH | 6.58 | pH units | pH probe | <0.01 pH units | 10/19/2010 | rdr |

## ---Chemistries---

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | RIW-3 |
| **Sampler** | sf |
| **Sample Date** | 10/18/2010 |
| **Sample Time** | 2:00pm |
| **Sample Received** | 10/19/2010 |

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 80 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | 0.50 | mg/L | HACH 8034 | 0.12 mg/L | 10/21/2010 | rdr |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 10/19/2010 | rdr |
| $PO_4$ | 0.13 | mg/L | HACH 8048 | 0.05 mg/L | 10/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 2.32 | mg/L | HACH 8008 | 0.03 mg/L | 10/21/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 2.3 | mg/L | HACH 10173 | <0.3 mg/L | 10/19/2010 | swd |
| pH | 6.53 | pH units | pH probe | <0.01 pH units | 10/19/2010 | rdr |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-101 |
| **Sampler** | dr |
| **Sample Date** | 10/22/2010 |
| **Sample Time** | 12:15pm |
| **Sample Received** | 10/19/2010 |

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 100 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | 0.60 | mg/L | HACH 8034 | 0.12 mg/L | 10/27/2010 | rdr |
| $NH_3$-N | 0.04 | mg/L | HACH 8155 | 0.02 mg/L | 10/25/2010 | rdr |
| $PO_4$ | 0.15 | mg/L | HACH 8048 | 0.05 mg/L | 10/25/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 7.45 | mg/L | HACH 8008 | 0.03 mg/L | 10/27/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 2.1 | mg/L | HACH 10173 | <0.3 mg/L | 10/26/2010 | swd |
| pH | 6.50 | pH units | pH probe | <0.01 pH units | 10/25/2010 | rdr |

## *---Chemistries---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 10/19/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 10 | mg/L | HACH 8203 | 5 mg/L | 10/19/2010 | rdr |
| Manganese | <0.12 | mg/L | HACH 8034 | 0.12 mg/L | 10/21/2010 | rdr |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 10/19/2010 | rdr |
| $PO_4$ | <0.05 | mg/L | HACH 8048 | 0.05 mg/L | 10/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | <0.03 | mg/L | HACH 8008 | 0.03 mg/L | 10/21/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 0.3 | mg/L | HACH 10173 | <0.3 mg/L | 10/19/2010 | swd |
| pH | 8.30 | pH units | pH probe | <0.01 pH units | 10/19/2010 | rdr |

*---Table-Summary of Analytical Report---*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Project** | Raytheon, Wayland, MA | | | | | | |
| **Date Received** | 10/19/10 | | | | | | |
| **Sample ID** | | REW-1 | REW-2 | RIW-1 | RIW-2 | RIW-3 | MW-101 |
| **Date Sampled** | | 10/18/10 | 10/18/10 | 10/18/10 | 10/18/10 | 10/18/10 | 10/22/10 |

| **Dissolved Gasses** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Date Analyzed** | | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 |
| **Sample ID** | Units | REW-1 | REW-2 | RIW-1 | RIW-2 | RIW-3 | MW-101 |
| Methane | µg/L | 3.2 | 4.3 | 314 | 190 | 40.2 | 255 |
| Ethylene | µg/L | <0.3 | 1.0 | 1.7 | 8.1 | 2.8 | 6.3 |
| Ethane | µg/L | <0.3 | 0.8 | 1.1 | 0.9 | 1.3 | 1.9 |
| Acetylene | µg/L | <2 | <2 | <2 | <2 | <2 | <2 |

| **Anions** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Date Analyzed** | | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 | 10/20/10 |
| **Sample ID** | Units | REW-1 | REW-2 | RIW-1 | RIW-2 | RIW-3 | MW-101 |
| Chloride | mg/L | 4 | 8 | 8 | 8 | 5 | 35 |
| Nitrate | mg/L | <1 | <1 | <1 | <1 | <1 | <1 |
| Sulfate | mg/L | 19 | 44 | 33 | 33 | 26 | 43 |
| **Organic Acids** | | | | | | | |
| **Date Analyzed** | | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 | 10/19/10 | 10/20/10 |
| Lactate | mg/L | <1 | <1 | <1 | <1 | <1 | <1 |
| Acetate | mg/L | <1 | <1 | <1 | <1 | <1 | <1 |
| Propionate | mg/L | <1 | <1 | <1 | <1 | <1 | <1 |
| Butyrate | mg/L | <1 | 5 | <1 | 2 | <1 | <1 |

| **Chemistries** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Date Analyzed** | 10/19/10-10/26/10 | | | | | | |
| **Sample ID** | Units | REW-1 | REW-2 | RIW-1 | RIW-2 | RIW-3 | MW-101 |
| Alkalinity | mg/L | 80 | 100 | 80 | 120 | 80 | 100 |
| Manganese | mg/L | 1.10 | 0.70 | 0.20 | 1.60 | 0.50 | 0.60 |
| $NH_3$-N | mg/L | 0.04 | 0.02 | <0.02 | 0.02 | <0.02 | 0.04 |
| $PO_4$ | mg/L | 0.14 | 0.15 | 0.11 | 0.10 | 0.13 | 0.15 |
| Sulfide | mg/L | na | na | na | na | na | na |
| Total Iron | mg/L | 2.23 | 1.23 | 0.69 | 0.92 | 2.32 | 7.45 |
| COD | mg/L | na | na | na | na | na | na |
| TOC | mg/L | 1.1 | 1.3 | 1.6 | 3.2 | 2.3 | 2.1 |
| pH | pH units | 6.48 | 6.72 | 6.48 | 6.58 | 6.53 | 6.50 |

| **H2/CO2 by TCD analysis** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Date Analyzed** | | 10/20/10 | 10/20/10 | 10/20/10 | 10/20/10 | 10/20/10 | 10/20/10 |
| **Sample ID** | Units | REW-1 | REW-2 | RIW-1 | RIW-2 | RIW-3 | MW-101 |
| H2 | µM | <1 | <1 | <1 | <1 | <1 | 19.0 |
| CO2 | mg/L | 25 | 11 | 17 | 22 | 24 | 24 |

## ---Table-Summary of Analytical Report---

| | | |
|---|---|---|
| **Project** | Raytheon, Wayland, MA | |
| **Date Received** | 10/19/10 | |
| **Sample ID** | | Trip |
| **Date Sampled** | | na |

| **Dissolved Gasses** | | |
|---|---|---|
| **Date Analyzed** | | 10/22/10 |
| **Sample ID** | Units | Trip |
| Methane | µg/L | <0.3 |
| Ethylene | µg/L | <0.3 |
| Ethane | µg/L | <0.3 |
| Acetylene | µg/L | <2 |

| **Anions** | | |
|---|---|---|
| **Date Analyzed** | | 10/19/10 |
| **Sample ID** | Units | Trip |
| Chloride | mg/L | <1 |
| Nitrate | mg/L | <1 |
| Sulfate | mg/L | <1 |
| **Organic Acids** | | |
| **Date Analyzed** | | 10/19/10 |
| Lactate | mg/L | <1 |
| Acetate | mg/L | <1 |
| Propionate | mg/L | <1 |
| Butyrate | mg/L | <1 |

| **Chemistries** | | |
|---|---|---|
| **Date Analyzed** | 10/19/10-10/26/10 | |
| **Sample ID** | Units | Trip |
| Alkalinity | mg/L | 10 |
| Manganese | mg/L | <0.12 |
| $NH_3$-N | mg/L | <0.02 |
| $PO_4$ | mg/L | <0.05 |
| Sulfide | mg/L | na |
| Total Iron | mg/L | <0.03 |
| COD | mg/L | na |
| TOC | mg/L | 0.3 |
| pH | pH units | 8.30 |

| **H2/CO2 by TCD analysis** | | |
|---|---|---|
| **Date Analyzed** | | 10/20/10 |
| **Sample ID** | Units | Trip |
| $H_2$ | µM | <1 |
| $CO_2$ | mg/L | <1 |

# TESTING METHODS

## Ion Analysis

Inorganic anions were analyzed on a Metrohm 761 IC system according to modified EPA Method 300. Organic acids were analyzed by HPLC method with an organic acid column for lactate, acetate, propionate, and butyrate. A sample to be analyzed for anions is diluted with ultra pure water as necessary to obtain the analytes in the working range of the method, and is placed into the instrument, where the sample is introduced by an automated sampling device. All samples were placed sequentially in the auto sampler and the samples were injected sequentially into the ion-exchange column. Flows from the column were directed to a conductivity detector and the peak responses were processed for quantification. Identification of analytes is based on retention times for individual analytes, and quantification is based on analysis of prepared standards.

## Gas Chromatography

Dissolved gasses were analyzed according to modified EPA Method 5021A. 10ml of the sample is transferred from the 40 ml VOA vials to a 20 ml sampling vial for a 1 to 1, headspace to liquid ratio. The headspace sample is analyzed by a HP 7694 Headspace Sampler, injected to a HP 5890 gas chromatograph. Gasses were detected by PID detector and followed by Flame Ionization Detector. Standards were prepared and analyzed in the same manner as samples.

## HACH Colorimeter

Chemical Tests for, Iron (Total), Manganese, Nitrogen (Ammonia), Phosphorous (Orthophosphate), and Sulfide are analyzed with a DR/ 890 Colorimeter. Alkalinity is analyzed with a HACH Alkalinity Digital Titrator. VOA vials for the analysis of these chemical tests have no preservative. The methods used are EPA approved and are as follows:

| | |
|---|---|
| Alkalinity | Hach Titration |
| Ammonia Nitrogen | Hach 8155 |
| COD | Hach 8000 |
| Manganese | Hach 8034 |
| Orthophosphate Phosphorous | Hach 8048 |
| Sulfide | Hach 8131 |
| TOC | Hach 10173 |
| Total Iron | Hach 8008 |

## pH

The pH of samples is determined using a Corning 313 ATC electrode.

# CHAIN OF CUSTODY RECORD

**BTC** **Bioremediation Treatability Center** • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Project Number: Raytheon Wayland RA008

Project Manager: S Fam

Company / Address: IESI

Phone #: Fax #:

Sampler's Signature: [signature]

Sampler's Printed Name: Sami Fam

| Client Sample ID | Sampling Date | Sampling Time | No. Of Wells | Dissolved Gas | Organic Acid | Anions (Cl, $NO_3$, $SO_4$) | pH | Alkalinity | Ammonia | Orthophosphate | Total Iron | Total Manganese | TOC | COD | VOC Screen | $H_2/CO_2$ | Biotank | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REW 2 | 10/18 | 1045 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | |
| REW 1 | ↓ | 1130 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | |
| RIW 1 | ↓ | 1215 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | |
| RIW 2 | ↓ | 1 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | |
| RIW 3 | ↓ | 2 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | |

Special Instructions / Comments: internal VOC screen

Sample Receipt: Condition / Cooler Temp:

| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| [signature] | Raquel Robertson | | |
| Printed Name: Sami Fam | Printed Name: Raquel Robertson | Printed Name | Printed Name |
| Firm | Firm: BTC | Firm | Firm |
| Date/Time: 10/19/10 8am | Date/Time: 10/19/10 8:30 AM | Date/Time | Date/Time |

# CHAIN OF CUSTODY RECORD

**B T C** **Bioremediation Treatability Center** • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Project Number: RA-008

Project Manager: Vicki Parzyan

Company / Address: Innovative Engineering Solutions Inc
25 Spring St Walpole MA 02081

Phone #: 508-668-0033 Fax #: 508-668-5175

Sampler's Signature:

Sampler's Printed Name: Donnie Bolls

| Client Sample ID | Sampling Date | Sampling Time | No. ~~of Wells~~ Bottles | Dissolved Gas | Organic Acid | Anions (Cl, $NO_3$, $SO_4$) | pH | Alkalinity | Ammonia | Orthophosphate | Total Iron | Total Manganese | TOC | COD | VOC Screen | $H_2/CO_2$ | Biotank | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-101 | 10/22/10 | 1215 | 6 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Special Instructions / Comments

Sample Receipt: Condition / Cooler Temp:

| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| [signature] | Susan Davis | | |
| Printed Name: Dwy A Jones | Printed Name: Susan Davis | Printed Name | Printed Name |
| Firm: IESI | Firm: BTC 4:00 | Firm | Firm |
| Date/Time: 10/22/10 | Date/Time: 10/22/10 | Date/Time | Date/Time |

# Raytheon, Wayland, MA
## Analytical Report

## Well Samples

Prepared By:
**BTC**
25 Spring Street,
Walpole, MA 02081-4301
Phone (508) 668-0191 • Fax (508) 668-5175

Sampled: 11/18/10
Analyzed: 11/19/10-11/22/10

Bioremediation & Treatability Center

25 Spring Street • Walpole, MA 02081-4301 •phone (508) 668-0191 • fax (508) 668-5175

November 23, 2010

IESI
Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring St.
Walpole, MA 02081-4301

RE: Analytical Data Report
Raytheon
Wayland, MA

Dear Mr. Fam,

Enclosed are the results of the sample(s) submitted to our laboratory on November 19, 2010.

All analyses were performed to our laboratory's quality assurance program. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. You may also contact me via email at G.Pon@Biotreatcenter.com

Respectfully submitted,
Bioremediation Treatability Center

George Pon
Laboratory Director

## *---Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 11/19/10 |
| **Sample Time** | 2:45pm |
| **Sample Received** | 11/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 301 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Ethylene | 5.8 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Ethane | 3.0 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | daj |
| **Sample Date** | 11/19/10 |
| **Sample Time** | 2:30pm |
| **Sample Received** | 11/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 3.2 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Ethylene | <0.3 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 11/19/2010 | swd |

## *---Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | daj |
| **Sample Date** | 11/19/10 |
| **Sample Time** | 2:15pm |
| **Sample Received** | 11/19/10 |

**Method** Modified EPA 5021 A

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 9.2 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Ethylene | 0.7 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 11/19/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 11/19/10 |
| **Sample Time** | 2:45pm |
| **Sample Received** | 11/19/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| 1,2 -cDCE | 162 | µg/L | 3 µg/L | 11/19/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| TCE | 760 | µg/L | 1 µg/L | 11/19/2010 | swd |
| PCE | 33 | µg/L | 10 µg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:30pm |
| **Sample Received** | 11/19/2010 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| 1,2 -cDCE | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| TCE | 114 | µg/L | 1 µg/L | 11/19/2010 | swd |
| PCE | <10 | µg/L | 10 µg/L | 11/19/2010 | swd |

## *---Volitile Organic Carbons---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:15pm |
| **Sample Received** | 11/19/2010 |

**Method** Modified EPA 5021 A

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 11/19/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| 1,2 -cDCE | 70 | µg/L | 3 µg/L | 11/19/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 11/19/2010 | swd |
| TCE | 259 | µg/L | 1 µg/L | 11/19/2010 | swd |
| PCE | 17 | µg/L | 10 µg/L | 11/19/2010 | swd |

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:45pm |
| **Sample Received** | 11/19/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 33 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Sulfate | 42 | mg/L | 1 mg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-1 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:30pm |
| **Sample Received** | 11/19/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 3 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Nitrate | 2 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Sulfate | 13 | mg/L | 1 mg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:15pm |
| **Sample Received** | 11/19/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 14 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Nitrate | 1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Sulfate | 32 | mg/L | 1 mg/L | 11/19/2010 | swd |

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:45pm |
| **Sample Received** | 11/19/2010 |
| **Method** | HPLC / Organic Acid Method |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | daj |
| **Sample Date** | 11/19/10 |
| **Sample Time** | 2:30pm |
| **Sample Received** | 11/19/10 |
| **Method** | HPLC / Organic Acid Method |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | daj |
| **Sample Date** | 11/19/10 |
| **Sample Time** | 2:15pm |
| **Sample Received** | 11/19/10 |
| **Method** | HPLC / Organic Acid Method |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 11/19/2010 | swd |

## ---Chemistries---

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

**Sample ID** MW-562

**Sampler** daj
**Sample Date** 11/19/2010
**Sample Time** 2:45pm
**Sample Received** 11/19/2010

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 120 | mg/L | HACH 8203 | 5 mg/L | 11/19/2010 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 11/19/2010 | rdr |
| $PO_4$ | 0.09 | mg/L | HACH 8048 | 0.05 mg/L | 11/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 4.0 | mg/L | HACH 10173 | <0.3 mg/L | 11/22/2010 | swd |
| pH | 6.67 | pH units | pH probe | <0.01 pH units | 11/19/2010 | rdr |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

**Sample ID** REW-1

**Sampler** daj
**Sample Date** 11/19/2010
**Sample Time** 2:30pm
**Sample Received** 11/19/2010

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 60 | mg/L | HACH 8203 | 5 mg/L | 11/19/2010 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 11/19/2010 | rdr |
| $PO_4$ | <0.05 | mg/L | HACH 8048 | 0.05 mg/L | 11/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 1.8 | mg/L | HACH 10173 | <0.3 mg/L | 11/22/2010 | swd |
| pH | 6.41 | pH units | pH probe | <0.01 pH units | 11/19/2010 | rdr |

## *---Chemistries---*

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | daj |
| **Sample Date** | 11/19/2010 |
| **Sample Time** | 2:15pm |
| **Sample Received** | 11/19/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 80 | mg/L | HACH 8203 | 5 mg/L | 11/19/2010 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | 0.30 | mg/L | HACH 8155 | 0.02 mg/L | 11/19/2010 | rdr |
| $PO_4$ | 0.09 | mg/L | HACH 8048 | 0.05 mg/L | 11/19/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 1.6 | mg/L | HACH 10173 | <0.3 mg/L | 11/22/2010 | swd |
| pH | 6.49 | pH units | pH probe | <0.01 pH units | 11/19/2010 | rdr |

**Project** Raytheon, Wayland, MA

| **Sample ID** | | MW-562 | REW-1 | REW-2 |
|---|---|---|---|---|
| **Date Sampled** | | 11/19/10 | 11/19/10 | 11/19/10 |
| Methane | µg/L | 301 | 3.2 | 9.2 |
| Ethene | µg/L | 5.8 | <0.3 | 0.7 |
| Ethane | µg/L | 3.0 | <0.3 | <0.3 |
| Vinyl Chloride | µg/L | <2 | <2 | <2 |
| Chloroethane | µg/L | <2 | <2 | <2 |
| 1,1-DCE | µg/L | <2 | <2 | <2 |
| 1,1-DCA | µg/L | <3 | <3 | <3 |
| 1,2-cDCE | µg/L | 162 | <3 | 70 |
| 1,1,1-TCA | µg/L | <3 | <3 | <3 |
| TCE | µg/L | 760 | 114 | 259 |
| PCE | µg/L | 33 | <10 | 17 |
| | | | | |
| Chloride | mg/L | 33 | 3 | 14 |
| Nitrate | mg/L | <1 | 2 | 1 |
| Sulfate | mg/L | 42 | 13 | 32 |
| Lactate | mg/L | <1 | <1 | <1 |
| Acetate | mg/L | <1 | <1 | <1 |
| Propionate | mg/L | <1 | <1 | <1 |
| Butyrate | mg/L | <1 | <1 | <1 |
| Alkalinity | mg/L | 120 | 60 | 80 |
| Manganese | mg/L | na | na | na |
| NH3-N | mg/L | <0.02 | <0.02 | 0.30 |
| PO4 | mg/L | 0.09 | <0.05 | 0.09 |
| Sulfide | mg/L | na | na | na |
| Total Iron | mg/L | na | na | na |
| COD | mg/L | na | na | na |
| TOC | mg/L | 4.0 | 1.8 | 1.6 |
| pH | pH units | 6.67 | 6.41 | 6.49 |
| H2 headspace | µM | na | na | na |
| CO2 Concentration | mg/L | na | na | na |

## TESTING METHODS

### Ion Analysis

Inorganic anions were analyzed on a Metrohm 761 IC system according to modified EPA Method 300. Organic acids were analyzed by HPLC method with an organic acid column for lactate, acetate, propionate, and butyrate. A sample to be analyzed for anions is diluted with ultra pure water as necessary to obtain the analytes in the working range of the method, and is placed into the instrument, where the sample is introduced by an automated sampling device. All samples were placed sequentially in the auto sampler and the samples were injected sequentially into the ion-exchange column. Flows from the column were directed to a conductivity detector and the peak responses were processed for quantification. Identification of analytes is based on retention times for individual analytes, and quantification is based on analysis of prepared standards.

### Gas Chromatography

Dissolved gasses were analyzed according to modified EPA Method 5021A. 10ml of the sample is transferred from the 40 ml VOA vials to a 20 ml sampling vial for a 1 to 1, headspace to liquid ratio. The headspace sample is analyzed by a HP 7694 Headspace Sampler, injected to a HP 5890 gas chromatograph. Gasses were detected by PID detector and followed by Flame Ionization Detector. Standards were prepared and analyzed in the same manner as samples.

### HACH Colorimeter

Chemical Tests for, Iron (Total), Manganese, Nitrogen (Ammonia), Phosphorous (Orthophosphate), and Sulfide are analyzed with a DR/ 890 Colorimeter. Alkalinity is analyzed with a HACH Alkalinity Digital Titrator. VOA vials for the analysis of these chemical tests have no preservative. The methods used are EPA approved and are as follows:

| | |
|---|---|
| Alkalinity | Hach Titration |
| Ammonia Nitrogen | Hach 8155 |
| COD | Hach 8000 |
| Manganese | Hach 8034 |
| Orthophosphate Phosphorous | Hach 8048 |
| Sulfide | Hach 8131 |
| TOC | Hach 10173 |
| Total Iron | Hach 8008 |

### pH

The pH of samples is determined using a Corning 313 ATC electrode.

# CHAIN OF CUSTODY RECORD

**B T C** **Bioremediation Treatability Center** • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Task Number: RA-008

Project Manager: Vicki Parzinan

Company / Address: Innovative Engineering Solutions Inc
25 Spring St Walpole MA 02081

Phone #: 508-668-0033 Fax #: 508-668-5175

Sampler's Signature:

Sampler's Printed Name: Dany A Sorto

| Client Sample ID | Sampling Date | Sampling Time | No. Of Bottles | Organic Acids | Dissolved Gasses | VOC Screen | Dioxane | CO2 | Mn | Fe | NH3 | S= | Alkalinity | H2 | Anions ($Cl^-$, $NO_3^-$, $SO_4^{2-}$) | PO4 | PCR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RSC1-[illegible] | 11/18/10 | 1415 | 5 | | | | | | | | | | | | | | |
| RE1-01 | 11/18/10 | 1430 | 5 | | | | | | | | | | | | | | |
| MW-Tob 562 SWD | 11/18/10 | 1445 | 5 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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Special Instructions / Comments

Sample Receipt: Condition / Cooler Temp:

| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| | Susan Davis | | |
| Printed Name: Dany A Sorto | Printed Name: Susan Davis | Printed Name | Printed Name |
| Firm: IESI | Firm: BTC | Firm | Firm |
| Date/Time: 11/19/10 0655 | Date/Time: 11/19/10 6:55 am | Date/Time | Date/Time |

# Raytheon, Wayland, MA
## Analytical Report

## Well Samples

Prepared By:
**BTC**
25 Spring Street,
Walpole, MA 02081-4301
Phone (508) 668-0191 • Fax (508) 668-5175

Sampled: 12/02/10
Analyzed: 12/02/10-12/9/10

Bioremediation & Treatability Center

25 Spring Street • Walpole, MA 02081-4301 •phone (508) 668-0191 • fax (508) 668-5175

December 10, 2010

IESI
Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring St.
Walpole, MA 02081-4301

RE: Analytical Data Report
Raytheon
Wayland, MA

Dear Mr. Fam,

Enclosed are the results of the sample(s) submitted to our laboratory on December 2, 2010.

All analyses were performed to our laboratory's quality assurance program. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. You may also contact me via email at G.Pon@Biotreatcenter.com

Respectfully submitted,
Bioremediation Treatability Center

George Pon
Laboratory Director

## *---Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 9:00am |
| **Sample Received** | 12/2/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 333 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethylene | 4.4 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethane | 0.7 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 9:30am |
| **Sample Received** | 12/2/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 27.8 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethylene | 1.4 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 12/3/2010 | swd |

## *---Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 11:00am |
| **Sample Received** | 12/2/10 |

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 185 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethylene | 5.1 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethane | 2.2 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 12/2/10 |

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | <0.3 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethylene | <0.3 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 12/3/2010 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 9:00am |
| **Sample Received** | 12/2/10 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | 17 | µg/L | 2 µg/L | 12/3/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,2 -cDCE | 226 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| TCE | 2845 | µg/L | 1 µg/L | 12/3/2010 | swd |
| PCE | 78 | µg/L | 10 µg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 9:30am |
| **Sample Received** | 12/2/2010 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | 9 | µg/L | 2 µg/L | 12/3/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,2 -cDCE | 96 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| TCE | 387 | µg/L | 1 µg/L | 12/3/2010 | swd |
| PCE | 21 | µg/L | 10 µg/L | 12/3/2010 | swd |

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-562 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 11:00am |
| **Sample Received** | 12/2/2010 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | 12 | µg/L | 2 µg/L | 12/3/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,2 -cDCE | 147 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| TCE | 699 | µg/L | 1 µg/L | 12/3/2010 | swd |
| PCE | 39 | µg/L | 10 µg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 12/2/2010 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCE | <2 | µg/L | 2 µg/L | 12/3/2010 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,2 -cDCE | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 12/3/2010 | swd |
| TCE | <1 | µg/L | 1 µg/L | 12/3/2010 | swd |
| PCE | <10 | µg/L | 10 µg/L | 12/3/2010 | swd |

## *---Hydrogen and CO2---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 9:00am |
| **Sample Received** | 12/2/10 |

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <3.4 | µM | 1 µM | 12/3/2010 | gp |
| $CO_2$ Concentration | 26 | mg/L | 1 mg/L | 12/3/2010 | gp |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 9:30am |
| **Sample Received** | 12/2/10 |

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <3.4 | µM | 1 µM | 12/3/2010 | gp |
| $CO_2$ Concentration | 30 | mg/L | 1 mg/L | 12/3/2010 | gp |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-562 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 11:00am |
| **Sample Received** | 12/2/10 |

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <3.4 | µM | 1 µM | 12/3/2010 | gp |
| $CO_2$ Concentration | 38 | mg/L | 1 mg/L | 12/3/2010 | gp |

## *---Hydrogen and CO2---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 12/2/10 |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| Dissolved $H_2$ | <3.4 | µM | 1 µM | 12/3/2010 | gp |
| $CO_2$ Concentration | <1 | mg/L | 1 mg/L | 12/3/2010 | gp |

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 9:00am |
| **Sample Received** | 12/2/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 30 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Sulfate | 43 | mg/L | 1 mg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 9:30am |
| **Sample Received** | 12/2/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 19 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Nitrate | 1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Sulfate | 30 | mg/L | 1 mg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 11:00am |
| **Sample Received** | 12/2/2010 |

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 28 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Sulfate | 35 | mg/L | 1 mg/L | 12/3/2010 | swd |

## *---Anions---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 12/2/2010 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Sulfate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |

## *---Organic Acids---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 9:00am |
| **Sample Received** | 12/2/2010 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 9:30am |
| **Sample Received** | 12/2/10 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |
| **Sample ID** | MW-562 |
| **Sampler** | sf |
| **Sample Date** | 12/2/10 |
| **Sample Time** | 11:00am |
| **Sample Received** | 12/2/10 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | 7 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Acetate | 7 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |

## *---Organic Acids---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 12/2/10 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 12/3/2010 | swd |

## ---Chemistries---

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-1 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 9:00am |
| **Sample Received** | 12/2/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 120 | mg/L | HACH 8203 | 5 mg/L | 12/2/2010 | rdr |
| Manganese | 0.90 | mg/L | HACH 8034 | 0.12 mg/L | 12/9/2010 | rdr |
| $NH_3$-N | 0.03 | mg/L | HACH 8155 | 0.02 mg/L | 12/3/2010 | rdr |
| $PO_4$ | 0.08 | mg/L | HACH 8048 | 0.05 mg/L | 12/3/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 7.40 | mg/L | HACH 8008 | 0.03 mg/L | 12/8/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 4.3 | mg/L | HACH 10173 | <0.3 mg/L | 12/7/2010 | swd |
| pH | 6.67 | pH units | pH probe | <0.01 pH units | 12/2/2010 | rdr |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-2 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 9:30am |
| **Sample Received** | 12/2/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 60 | mg/L | HACH 8203 | 5 mg/L | 12/2/2010 | rdr |
| Manganese | 0.50 | mg/L | HACH 8034 | 0.12 mg/L | 12/9/2010 | rdr |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 12/3/2010 | rdr |
| $PO_4$ | 0.06 | mg/L | HACH 8048 | 0.05 mg/L | 12/3/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 5.20 | mg/L | HACH 8008 | 0.03 mg/L | 12/8/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 1.6 | mg/L | HACH 10173 | <0.3 mg/L | 12/7/2010 | swd |
| pH | 6.59 | pH units | pH probe | <0.01 pH units | 12/2/2010 | rdr |

## *---Chemistries---*

Bioremediation & Treatability Center

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | sf |
| **Sample Date** | 12/2/2010 |
| **Sample Time** | 11:00am |
| **Sample Received** | 12/2/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 120 | mg/L | HACH 8203 | 5 mg/L | 12/2/2010 | rdr |
| Manganese | 0.30 | mg/L | HACH 8034 | 0.12 mg/L | 12/9/2010 | rdr |
| $NH_3$-N | 0.02 | mg/L | HACH 8155 | 0.02 mg/L | 12/3/2010 | rdr |
| $PO_4$ | 0.06 | mg/L | HACH 8048 | 0.05 mg/L | 12/3/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | 7.55 | mg/L | HACH 8008 | 0.03 mg/L | 12/8/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 453 | mg/L | HACH 10173 | <0.3 mg/L | 12/7/2010 | swd |
| pH | 6.47 | pH units | pH probe | <0.01 pH units | 12/2/2010 | rdr |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 12/2/2010 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 10 | mg/L | HACH 8203 | 5 mg/L | 12/2/2010 | rdr |
| Manganese | <0.12 | mg/L | HACH 8034 | 0.12 mg/L | 12/9/2010 | rdr |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 12/3/2010 | rdr |
| $PO_4$ | <0.05 | mg/L | HACH 8048 | 0.05 mg/L | 12/3/2010 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | <0.03 | mg/L | HACH 8008 | 0.03 mg/L | 12/8/2010 | rdr |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | <0.3 | mg/L | HACH 10173 | <0.3 mg/L | 12/7/2010 | swd |
| pH | 7.96 | pH units | pH probe | <0.01 pH units | 12/2/2010 | rdr |

| | | | | | |
|---|---|---|---|---|---|
| **Project** | Raytheon, Wayland, MA | | | | |
| **Date Received** | 12/2/10 | | | | |
| **Sample ID** | | REW-1 | REW-2 | MW-562 | Trip |
| **Date Sampled** | | 12/2/10 | 12/2/10 | 12/2/10 | na |

| **Dissolved Gasses** | | | | | |
|---|---|---|---|---|---|
| **Date Analyzed** | | 12/3/10 | 12/3/10 | 12/3/10 | 12/3/10 |
| **Sample ID** | Units | REW-1 | REW-2 | MW-562 | Trip |
| Methane | µg/L | 333 | 27.8 | 185 | <0.3 |
| Ethylene | µg/L | 4.4 | 1.4 | 5.1 | <0.3 |
| Ethane | µg/L | 0.7 | <0.3 | 2.2 | <0.3 |
| Acetylene | µg/L | <2 | <2 | <2 | <2 |

| **Anions** | | | | | |
|---|---|---|---|---|---|
| **Date Analyzed** | | 12/3/10 | 12/3/10 | 12/3/10 | 12/3/10 |
| **Sample ID** | Units | REW-1 | REW-2 | MW-562 | Trip |
| Chloride | mg/L | 30 | 19 | 28 | <1 |
| Nitrate | mg/L | <1 | 1 | <1 | <1 |
| Sulfate | mg/L | 43 | 30 | 35 | <1 |
| **Organic Acids** | | | | | |
| **Date Analyzed** | | 12/3/10 | 12/3/10 | 12/3/10 | 12/3/10 |
| Lactate | mg/L | <1 | <1 | 7 | <1 |
| Acetate | mg/L | <1 | <1 | 7 | <1 |
| Propionate | mg/L | <1 | <1 | <1 | <1 |
| Butyrate | mg/L | <1 | <1 | <1 | <1 |

| **Chemistries** | | | | | |
|---|---|---|---|---|---|
| **Date Analyzed** | 12/2/10-1298/10 | | | | |
| **Sample ID** | Units | REW-1 | REW-2 | MW-562 | Trip |
| Alkalinity | mg/L | 120 | 60 | 120 | 10 |
| Manganese | mg/L | 0.90 | 0.50 | 0.30 | <0.12 |
| $NH_3$-N | mg/L | 0.03 | <0.02 | 0.02 | <0.02 |
| $PO_4$ | mg/L | 0.08 | 0.06 | 0.06 | <0.05 |
| Sulfide | mg/L | na | na | na | na |
| Total Iron | mg/L | 7.40 | 5.20 | 7.55 | <0.03 |
| COD | mg/L | na | na | na | na |
| TOC | mg/L | 4.3 | 1.6 | 453 | <0.3 |
| pH | pH units | 6.67 | 6.59 | 6.47 | 7.96 |

| **H2/CO2 by TCD analysis** | | | | | |
|---|---|---|---|---|---|
| **Date Analyzed** | | 12/3/10 | 12/3/10 | 12/3/10 | 12/3/10 |
| **Sample ID** | Units | REW-1 | REW-2 | MW-562 | Trip |
| H2 | µM | <3.4 | <3.4 | <3.4 | <3.4 |
| CO2 | mg/L | 26 | 30 | 38 | <1 |

## TESTING METHODS

### Ion Analysis

Inorganic anions were analyzed on a Metrohm 761 IC system according to modified EPA Method 300. Organic acids were analyzed by HPLC method with an organic acid column for lactate, acetate, propionate, and butyrate. A sample to be analyzed for anions is diluted with ultra pure water as necessary to obtain the analytes in the working range of the method, and is placed into the instrument, where the sample is introduced by an automated sampling device. All samples were placed sequentially in the auto sampler and the samples were injected sequentially into the ion-exchange column. Flows from the column were directed to a conductivity detector and the peak responses were processed for quantification. Identification of analytes is based on retention times for individual analytes, and quantification is based on analysis of prepared standards.

### Gas Chromatography

Dissolved gasses were analyzed according to modified EPA Method 5021A. 10ml of the sample is transferred from the 40 ml VOA vials to a 20 ml sampling vial for a 1 to 1, headspace to liquid ratio. The headspace sample is analyzed by a HP 7694 Headspace Sampler, injected to a HP 5890 gas chromatograph. Gasses were detected by PID detector and followed by Flame Ionization Detector. Standards were prepared and analyzed in the same manner as samples.

### HACH Colorimeter

Chemical Tests for, Iron (Total), Manganese, Nitrogen (Ammonia), Phosphorous (Orthophosphate), and Sulfide are analyzed with a DR/ 890 Colorimeter. Alkalinity is analyzed with a HACH Alkalinity Digital Titrator. VOA vials for the analysis of these chemical tests have no preservative. The methods used are EPA approved and are as follows:

| | |
|---|---|
| Alkalinity | Hach Titration |
| Ammonia Nitrogen | Hach 8155 |
| COD | Hach 8000 |
| Manganese | Hach 8034 |
| Orthophosphate Phosphorous | Hach 8048 |
| Sulfide | Hach 8131 |
| TOC | Hach 10173 |
| Total Iron | Hach 8008 |

### pH

The pH of samples is determined using a Corning 313 ATC electrode.

# CHAIN OF CUSTODY RECORD

**B T C** **Bioremediation Treatability Center** • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Task Number: Raytheon Wayland RA008

Project Manager: Sami Fam

Company / Address: IESI

Phone #: Fax #:

Sampler's Signature:

Sampler's Printed Name:

| Client Sample ID | Sampling Date | Sampling Time | No. Of Bottles | Organic Acids | Dissolved Gasses | VOC Screen | Dioxane | CO2 | Mn | Fe | NH3 | S= | Alkalinity | H2 | Anions ($Cl^-$, $NO_3^-$, $SO_4^{2-}$) | PO4 | PCR | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REW-1 | 9 | 12/2 | 6 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| REW-2 | 9 30 | ↓ | 6 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| MW562 | 11 | ↓ | 6 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Blank | | | 6 | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | |

Special Instructions / Comments:

Sample Receipt: Condition / Cooler Temp:

| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| [signature] | Susan Davis | | |
| Printed Name: Sami Fam | Printed Name: Susan Davis | Printed Name: | Printed Name: |
| Firm: | Firm: BTC | Firm: | Firm: |
| Date/Time: | Date/Time: 12/2/10 12:30 | Date/Time: | Date/Time: |

# Raytheon, Wayland, MA
## Analytical Report

## Well Samples

Prepared By:
**BTC**
25 Spring Street,
Walpole, MA 02081-4301
Phone (508) 668-0191 Å Fax (508) 668-5175

Sampled: 01/26/11
Analyzed: 01/26/11-1/27/11

Bioremediation & Treatability Center

25 Spring Street ÅWalpole, MA 02081-4301 Åphone (508) 668-0191 Åfax (508) 668-5175

January 28, 2011

IESI
Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring St.
Walpole, MA 02081-4301

RE: Analytical Data Report
Raytheon
Wayland, MA

Dear Mr. Fam,

Enclosed are the results of the sample(s) submitted to our laboratory on January 26, 2011.

All analyses were performed to our laboratoryôs quality assurance program. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. You may also contact me via email at G.Pon@Biotreatcenter.com

Respectfully submitted,
Bioremediation Treatability Center

George Pon
Laboratory Director

## *---Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 1/26/11 |
| **Sample Time** | 10:00 AM |
| **Sample Received** | 1/26/11 |

**Method** Modified EPA 5021 A

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 79.1 | µg/L | 0.3 µg/L | 1/26/2011 | swd |
| Ethylene | 1.9 | µg/L | 0.3 µg/L | 1/26/2011 | swd |
| Ethane | 0.4 | µg/L | 0.3 µg/L | 1/26/2011 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 1/26/2011 | swd |

## *---Volitile Organic Carbons---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 1/26/11 |
| **Sample Time** | 10:00 AM |
| **Sample Received** | 1/26/11 |
| **Method** | Modified EPA 5021 A |

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **VOC's** | | | | | |
| Vinyl Chloride | 11 | µg/L | 2 µg/L | 1/26/2011 | swd |
| Chloroethane | <2 | µg/L | 2 µg/L | 1/26/2011 | swd |
| 1,1- DCE | 2 | µg/L | 2 µg/L | 1/26/2011 | swd |
| 1,1- DCA | <3 | µg/L | 3 µg/L | 1/26/2011 | swd |
| 1,2 -cDCE | 1308 | µg/L | 3 µg/L | 1/26/2011 | swd |
| 1,1,1-TCA | <3 | µg/L | 3 µg/L | 1/26/2011 | swd |
| TCE | 147 | µg/L | 1 µg/L | 1/26/2011 | swd |
| PCE | <10 | µg/L | 10 µg/L | 1/26/2011 | swd |

## ---*Anions*---

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 1/26/2011 |
| **Sample Time** | 10:00 AM |
| **Sample Received** | 1/26/2011 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 60 | mg/L | 1 mg/L | 1/26/2011 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 1/26/2011 | swd |
| Sulfate | 23 | mg/L | 1 mg/L | 1/26/2011 | swd |

## *---Organic Acids---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 1/26/2011 |
| **Sample Time** | 10:00 AM |
| **Sample Received** | 1/26/2011 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 1/26/2011 | swd |
| Acetate | 8 | mg/L | 1 mg/L | 1/26/2011 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 1/26/2011 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 1/26/2011 | swd |

## *---Chemistries---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 1/26/2011 |
| **Sample Time** | 10:00 AM |
| **Sample Received** | 1/26/2011 |

| **Chemical Tests** | **Test Value** | **Units** | **Method** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|---|
| Alkalinity | 160 | mg/L | HACH 8203 | 5 mg/L | 1/26/2011 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | 0.02 | mg/L | HACH 8155 | 0.02 mg/L | 1/26/2011 | rdr |
| $PO_4$ | 276 | mg/L | HACH 8048 | 0.05 mg/L | 1/26/2011 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 146 | mg/L | HACH 10173 | <0.3 mg/L | 1/27/2011 | swd |
| pH | 6.48 | pH units | pH probe | <0.01 pH units | 1/26/2011 | rdr |

**Project** Raytheon, Wayland, MA

| | | |
|---|---|---|
| **Sample ID** | | MW-562 |
| **Date Sampled** | | 1/26/11 |
| Methane | µg/L | 79.1 |
| Ethene | µg/L | 1.9 |
| Ethane | µg/L | 0.4 |
| Vinyl Chloride | µg/L | 11 |
| Chloroethane | µg/L | <2 |
| 1,1-DCE | µg/L | 2 |
| 1,1-DCA | µg/L | <3 |
| 1,2-cDCE | µg/L | 1308 |
| 1,1,1-TCA | µg/L | <3 |
| TCE | µg/L | 147 |
| PCE | µg/L | <10 |
| | | |
| Chloride | mg/L | 60 |
| Nitrate | mg/L | <1 |
| Sulfate | mg/L | 23 |
| Lactate | mg/L | <1 |
| Acetate | mg/L | 8 |
| Propionate | mg/L | <1 |
| Butyrate | mg/L | <1 |
| Alkalinity | mg/L | 160 |
| Manganese | mg/L | na |
| NH3-N | mg/L | 0.02 |
| PO4 | mg/L | 276 |
| Sulfide | mg/L | na |
| Total Iron | mg/L | na |
| COD | mg/L | na |
| TOC | mg/L | 146 |
| pH | pH units | 6.48 |
| H2 headspace | µM | <3.4 |
| CO2 Concentration | mg/L | na |

## TESTING METHODS

### Ion Analysis

Inorganic anions were analyzed on a Metrohm 761 IC system according to modified EPA Method 300. Organic acids were analyzed by HPLC method with an organic acid column for lactate, acetate, propionate, and butyrate. A sample to be analyzed for anions is diluted with ultra pure water as necessary to obtain the analytes in the working range of the method, and is placed into the instrument, where the sample is introduced by an automated sampling device. All samples were placed sequentially in the auto sampler and the samples were injected sequentially into the ion-exchange column. Flows from the column were directed to a conductivity detector and the peak responses were processed for quantification. Identification of analytes is based on retention times for individual analytes, and quantification is based on analysis of prepared standards.

### Gas Chromatography

Dissolved gasses were analyzed according to modified EPA Method 5021A. 10ml of the sample is transferred from the 40 ml VOA vials to a 20 ml sampling vial for a 1 to 1, headspace to liquid ratio. The headspace sample is analyzed by a HP 7694 Headspace Sampler, injected to a HP 5890 gas chromatograph. Gasses were detected by PID detector and followed by Flame Ionization Detector. Standards were prepared and analyzed in the same manner as samples.

### HACH Colorimeter

Chemical Tests for, Iron (Total), Manganese, Nitrogen (Ammonia), Phosphorous (Orthophosphate), and Sulfide are analyzed with a DR/ 890 Colorimeter. Alkalinity is analyzed with a HACH Alkalinity Digital Titrator. VOA vials for the analysis of these chemical tests have no preservative. The methods used are EPA approved and are as follows:

| | |
|---|---|
| Alkalinity | Hach Titration |
| Ammonia Nitrogen | Hach 8155 |
| COD | Hach 8000 |
| Manganese | Hach 8034 |
| Orthophosphate Phosphorous | Hach 8048 |
| Sulfide | Hach 8131 |
| TOC | Hach 10173 |
| Total Iron | Hach 8008 |

### pH

The pH of samples is determined using a Corning 313 ATC electrode.

# CHAIN OF CUSTODY RECORD

**B T C** **Bioremediation Treatability Center** • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Project Number: RA-008

Project Manager: Vicki Parsons

Company / Address: Innovative Engineering Solutions Inc
25 Spring St Walpole MA 02081

Phone #: 508-668-0033 Fax #: 508-668-5175

Sampler's Signature:

Sampler's Printed Name: Dany A Jones

| Client Sample ID | Sampling Date | Sampling Time | No. of Sample Bottles per Well | Alkalinity | Ammonia | Anions ($Cl^-$, $NO_3^-$, $SO_4^-$) | Biotank | Bromide | COD | Dissolved Gas | H2 / CO2 | Organic Acid | Orthophosphate | pH | Sulfide | TOC | Total Iron | Total Manganese | VOC Screen |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-362 | 1/26/11 | 1000 | 10 | X | X | X | | | | X | | X | X | X | | X | | | X |

Special Instructions / Comments: strong bio odor

| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| Printed Name: Dany A Jones | Printed Name: Susan Davis | Printed Name | Printed Name |
| Firm: IESI | Firm: BTC | Firm | Firm |
| Date/Time: 1/26/11 1340 | Date/Time: 1/26/10 1340 | Date/Time | Date/Time |

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# Raytheon, Wayland, MA
## Analytical Report

## Well Samples

Bioremediation & Treatability Center

Prepared By:
**BTC**
25 Spring Street,
Walpole, MA 02081-4301
Phone (508) 668-0191 Å Fax (508) 668-5175

Sampled: 03/30/11
Analyzed: 03/30/11-04/04/11



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25 Spring Street ÅWalpole, MA 02081-4301 Åphone (508) 668-0191 Åfax (508) 668-5175

April 4, 2011

IESI
Sami Fam
Innovative Engineering Solutions, Inc.
25 Spring St.
Walpole, MA 02081-4301

RE: Analytical Data Report
Raytheon
Wayland, MA

Dear Mr. Fam,

Enclosed are the results of the sample(s) submitted to our laboratory on March 30, 2011.

All analyses were performed to our laboratoryôs quality assurance program. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. You may also contact me via email at G.Pon@Biotreatcenter.com

Respectfully submitted,
Bioremediation Treatability Center

George Pon
Laboratory Director

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*-Dissolved Gasses---*

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

**Sample ID** MW-562

**Sampler** daj
**Sample Date** 3/30/11
**Sample Time** 12:55 PM
**Sample Received** 3/30/11

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 73.3 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethylene | 1.5 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethane | 0.4 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 3/30/2011 | swd |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

**Sample ID** REW-1

**Sampler** daj
**Sample Date** 3/30/11
**Sample Time** 12:20 PM
**Sample Received** 3/30/11

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 160 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethylene | 1.6 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethane | 0.3 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 3/30/2011 | swd |

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*-Dissolved Gasses---*

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-2

**Sampler** daj
**Sample Date** 3/30/11
**Sample Time** 12:35 PM
**Sample Received** 3/30/11

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | 18.0 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethylene | 1.1 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 3/30/2011 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** Trip

**Sampler** na
**Sample Date** na
**Sample Time** na
**Sample Received** 3/30/11

**Method** Modified EPA 5021 A

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Dissolved Gasses** | | | | | |
| Methane | <0.3 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethylene | <0.3 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Ethane | <0.3 | µg/L | 0.3 µg/L | 3/30/2011 | swd |
| Acetylene | <2 | µg/L | 2µg/L | 3/30/2011 | swd |

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**Project Identification:** Raytheon, Wayland, MA

**Sample ID** MW-562
**Sampler** daj
**Sample Date** 3/30/2011
**Sample Time** 12:55 PM
**Sample Received** 3/30/2011

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 24 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Sulfate | 4 | mg/L | 1 mg/L | 3/31/2011 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-1
**Sampler** daj
**Sample Date** 3/30/2011
**Sample Time** 12:20 PM
**Sample Received** 3/30/2011

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 25 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Sulfate | 28 | mg/L | 1 mg/L | 3/31/2011 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-2
**Sampler** daj
**Sample Date** 3/30/2011
**Sample Time** 12:35 PM
**Sample Received** 3/30/2011

**Method** Modified EPA 300

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | 24 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Sulfate | 4 | mg/L | 1 mg/L | 3/31/2011 | swd |

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***---Anions---***

**Project Identification:** Raytheon, Wayland, MA

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 3/30/2011 |

**Method** Modified EPA 300

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Anions** | | | | | |
| Chloride | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Nitrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Sulfate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |

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**Project Identification:** Raytheon, Wayland, MA

**Sample ID** MW-562

**Sampler** daj
**Sample Date** 3/30/2011
**Sample Time** 12:55 PM
**Sample Received** 3/30/2011

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Acetate | 12 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Butyrate | 6 | mg/L | 1 mg/L | 3/31/2011 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-1

**Sampler** daj
**Sample Date** 3/30/11
**Sample Time** 12:20 PM
**Sample Received** 3/30/11

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-2

**Sampler** daj
**Sample Date** 3/30/11
**Sample Time** 12:35 PM
**Sample Received** 3/30/11

**Method** HPLC / Organic Acid Method

| Compound | Test Value | Units | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |

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***---Organic Acids---***

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | Trip |
| **Sampler** | na |
| **Sample Date** | na |
| **Sample Time** | na |
| **Sample Received** | 3/30/11 |

**Method** HPLC / Organic Acid Method

| **Compound** | **Test Value** | **Units** | **Detection Limit** | **Analysis Date** | **Tech** |
|---|---|---|---|---|---|
| **Organic Acids** | | | | | |
| Lactate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Acetate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Propionate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |
| Butyrate | <1 | mg/L | 1 mg/L | 3/31/2011 | swd |

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***---Chemistries---***

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | MW-562 |
| **Sampler** | daj |
| **Sample Date** | 3/30/2011 |
| **Sample Time** | 12:55 PM |
| **Sample Received** | 3/30/2011 |

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 240 | mg/L | HACH 8203 | 5 mg/L | 3/31/2011 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | 33 | mg/L | HACH 8155 | 0.02 mg/L | 3/31/2011 | rdr |
| $PO_4$ | 152 | mg/L | HACH 8048 | 0.05 mg/L | 3/31/2011 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 708 | mg/L | HACH 10173 | <0.3 mg/L | 4/4/2011 | swd |
| pH | 7.18 | pH units | pH probe | <0.01 pH units | 3/31/2011 | rdr |

| | |
|---|---|
| **Project Identification:** | Raytheon, Wayland, MA |

| | |
|---|---|
| **Sample ID** | REW-1 |
| **Sampler** | daj |
| **Sample Date** | 3/30/2011 |
| **Sample Time** | 12:20 PM |
| **Sample Received** | 3/30/2011 |

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 140 | mg/L | HACH 8203 | 5 mg/L | 3/31/2011 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 3/31/2011 | rdr |
| $PO_4$ | 5.50 | mg/L | HACH 8048 | 0.05 mg/L | 3/31/2011 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 98.2 | mg/L | HACH 10173 | <0.3 mg/L | 4/4/2011 | swd |
| pH | 6.84 | pH units | pH probe | <0.01 pH units | 3/31/2011 | rdr |

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***---Chemistries---***

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** REW-2

**Sampler** daj
**Sample Date** 3/30/2011
**Sample Time** 12:35 PM
**Sample Received** 3/30/2011

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 100 | mg/L | HACH 8203 | 5 mg/L | 3/31/2011 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 3/31/2011 | rdr |
| $PO_4$ | 0.06 | mg/L | HACH 8048 | 0.05 mg/L | 3/31/2011 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | 44.6 | mg/L | HACH 10173 | <0.3 mg/L | 4/4/2011 | swd |
| pH | 6.73 | pH units | pH probe | <0.01 pH units | 3/31/2011 | rdr |

**Project Identification:** Raytheon, Wayland, MA

**Sample ID** Trip

**Sampler** na
**Sample Date** na
**Sample Time** na
**Sample Received** 3/30/2011

| Chemical Tests | Test Value | Units | Method | Detection Limit | Analysis Date | Tech |
|---|---|---|---|---|---|---|
| Alkalinity | 10 | mg/L | HACH 8203 | 5 mg/L | 3/31/2011 | rdr |
| Manganese | na | mg/L | HACH 8034 | 0.12 mg/L | na | na |
| $NH_3$-N | <0.02 | mg/L | HACH 8155 | 0.02 mg/L | 3/31/2011 | rdr |
| $PO_4$ | <0.05 | mg/L | HACH 8048 | 0.05 mg/L | 3/31/2011 | rdr |
| Sulfide | na | mg/L | HACH 8131 | 0.01 mg/L | na | na |
| Total Iron | na | mg/L | HACH 8008 | 0.03 mg/L | na | na |
| COD | na | mg/L | HACH 8000 | <2 mg/L | na | na |
| TOC | <0.3 | mg/L | HACH 10173 | <0.3 mg/L | 4/4/2011 | swd |
| pH | 8.06 | pH units | pH probe | <0.01 pH units | 3/31/2011 | rdr |

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***mmary of Analytical Report---***

**Project** Raytheon, Wayland, MA

| **Sample ID** | | MW-562 | REW-1 | REW-2 | Trip |
|---|---|---|---|---|---|
| **Date Sampled** | | 3/30/11 | 3/30/11 | 3/30/11 | na |
| Methane | µg/L | 73.3 | 160 | 18.0 | <0.3 |
| Ethene | µg/L | 1.5 | 1.6 | 1.1 | <0.3 |
| Ethane | µg/L | 0.4 | 0.3 | <0.3 | <0.3 |
| Vinyl Chloride | µg/L | 8 | 10 | 7 | <2 |
| Chloroethane | µg/L | <2 | <2 | <2 | <2 |
| 1,1-DCE | µg/L | <2 | <2 | <2 | <2 |
| 1,1-DCA | µg/L | <3 | <3 | <3 | <3 |
| 1,2-cDCE | µg/L | 1085 | 408 | 158 | <3 |
| 1,1,1-TCA | µg/L | <3 | <3 | <3 | <3 |
| TCE | µg/L | 25 | 1669 | 221 | <1 |
| PCE | µg/L | 16 | 59 | 17 | <10 |
| | | | | | |
| Chloride | mg/L | 24 | 25 | 24 | <1 |
| Nitrate | mg/L | <1 | <1 | <1 | <1 |
| Sulfate | mg/L | 4 | 28 | 4 | <1 |
| Lactate | mg/L | <1 | <1 | <1 | <1 |
| Acetate | mg/L | 12 | <1 | <1 | <1 |
| Propionate | mg/L | <1 | <1 | <1 | <1 |
| Butyrate | mg/L | 6 | <1 | <1 | <1 |
| Alkalinity | mg/L | 240 | 140 | 100 | 10 |
| Manganese | mg/L | na | na | na | na |
| NH3-N | mg/L | 33 | <0.02 | <0.02 | <0.02 |
| PO4 | mg/L | 152 | 5.50 | 0.06 | <0.05 |
| Sulfide | mg/L | na | na | na | na |
| Total Iron | mg/L | na | na | na | na |
| COD | mg/L | na | na | na | na |
| TOC | mg/L | 708 | 98.2 | 44.6 | <0.3 |
| pH | pH units | 7.18 | 6.84 | 6.73 | 8.06 |
| H2 headspace | µM | na | na | na | na |
| CO2 Concentration | mg/L | na | na | na | na |

## TESTING METHODS

### Ion Analysis

Inorganic anions were analyzed on a Metrohm 761 IC system according to modified EPA Method 300. Organic acids were analyzed by HPLC method with an organic acid column for lactate, acetate, propionate, and butyrate. A sample to be analyzed for anions is diluted with ultra pure water as necessary to obtain the analytes in the working range of the method, and is placed into the instrument, where the sample is introduced by an automated sampling device. All samples were placed sequentially in the auto sampler and the samples were injected sequentially into the ion-exchange column. Flows from the column were directed to a conductivity detector and the peak responses were processed for quantification. Identification of analytes is based on retention times for individual analytes, and quantification is based on analysis of prepared standards.

### Gas Chromatography

Dissolved gasses were analyzed according to modified EPA Method 5021A. 10ml of the sample is transferred from the 40 ml VOA vials to a 20 ml sampling vial for a 1 to 1, headspace to liquid ratio. The headspace sample is analyzed by a HP 7694 Headspace Sampler, injected to a HP 5890 gas chromatograph. Gasses were detected by PID detector and followed by Flame Ionization Detector. Standards were prepared and analyzed in the same manner as samples.

### HACH Colorimeter

Chemical Tests for, Iron (Total), Manganese, Nitrogen (Ammonia), Phosphorous (Orthophosphate), and Sulfide are analyzed with a DR/ 890 Colorimeter. Alkalinity is analyzed with a HACH Alkalinity Digital Titrator. VOA vials for the analysis of these chemical tests have no preservative. The methods used are EPA approved and are as follows:

| | |
|---|---|
| Alkalinity | Hach Titration |
| Ammonia Nitrogen | Hach 8155 |
| COD | Hach 8000 |
| Manganese | Hach 8034 |
| Orthophosphate Phosphorous | Hach 8048 |
| Sulfide | Hach 8131 |
| TOC | Hach 10173 |
| Total Iron | Hach 8008 |

### pH

The pH of samples is determined using a Corning 313 ATC electrode.

# CHAIN OF CUSTODY RECORD

**B T C** **Bioremediation Treatability Center** • 25 Spring Street • Walpole, MA 02081-4301 • phone (508) 668-0191 • fax (508) 668-5175

Project Name & Project Number RA-008

Project Manager Vicki Paringer

Company / Address Innovative Engineering Solutions Inc
25 Spring St. Walpole MA 02081

Phone # 508-668-0033 Fax # 508-668-5175

Sampler's Signature

Sampler's Printed Name Davy Jones

| Client Sample ID | Sampling Date | Sampling Time | No. of Sample Bottles per Well | Alkalinity | Ammonia | Anions ($Cl^-$, $NO_3^-$, $SO_4^-$) | Biotank | Bromide | COD | Dissolved Gas | H2 / CO2 | Organic Acid | Orthophosphate | pH | Sulfide | TOC | Total Iron | Total Manganese | VOC Screen | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-5L2 | 3/30/11 | 1255 | 5 | X | X | X | | | | X | | X | X | X | | X | | | X | |
| REW-1 | 3/30/11 | 1220 | 5 | X | X | X | | | | X | | X | X | X | | X | | | X | |
| REW-2 | 3/30/11 | 1235 | 5 | X | X | X | | | | X | | X | X | X | | X | | | X | |
| Trip Blanks | — | — | 4 | | | | | | | | | | | | | | | | | |

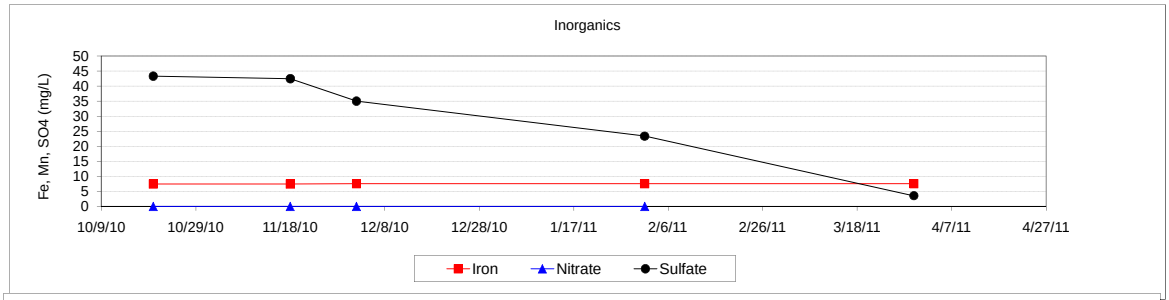
Special Instructions / Comments

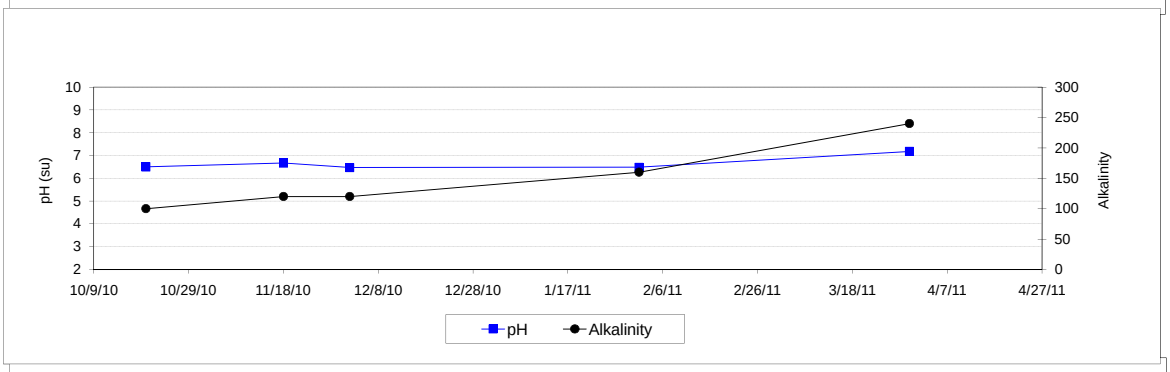
| Relinquished By | Received By | Relinquished By | Received By |
|---|---|---|---|
| Printed Name Davy Jones | Printed Name Susan Davis | Printed Name | Printed Name |
| Firm IESI | Firm BTC | Firm | Firm |
| Date/Time 3/30/11 1400 | Date/Time 3/30/11 1400 | Date/Time | Date/Time |

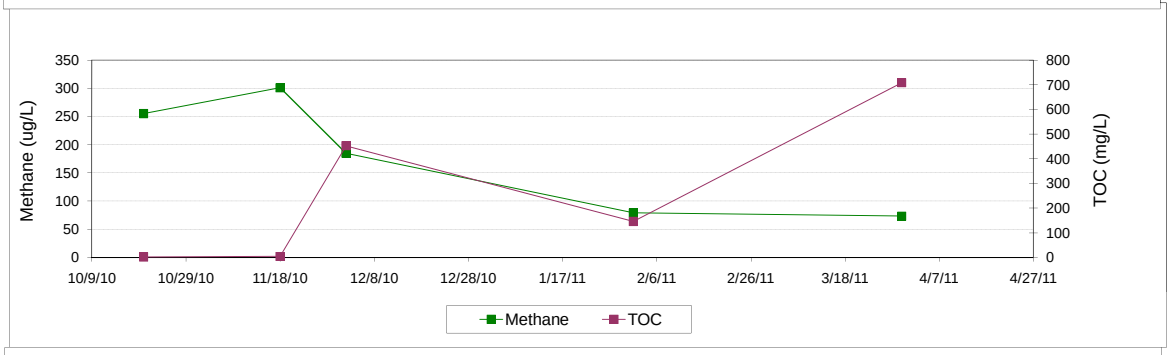
# **Attachment B**

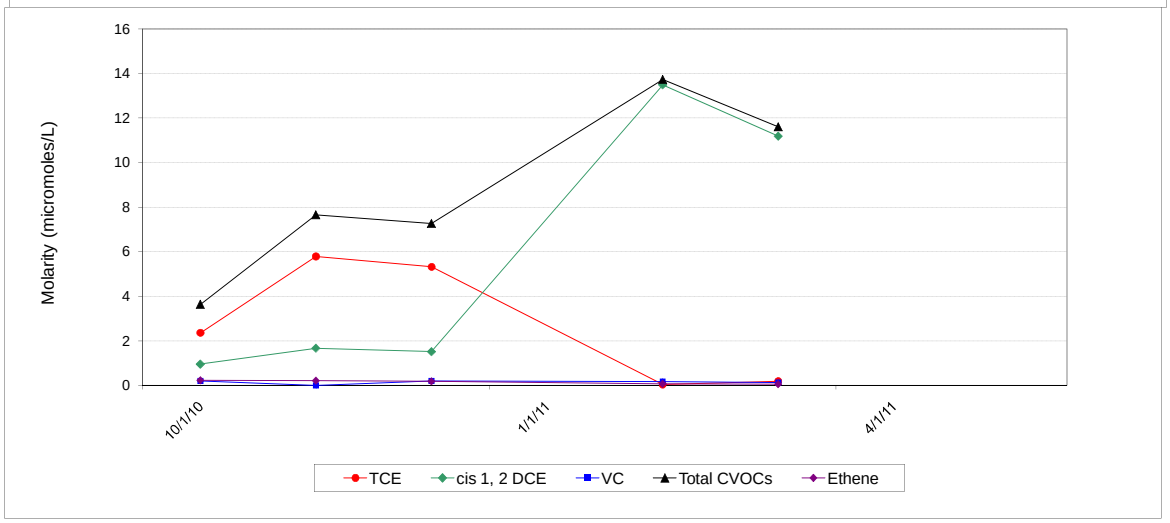
Well Analytical Data Tracking Graphs

Northern Area Remediation Monitoring Data
MW-562
Former Raytheon Facility, Wayland, MA

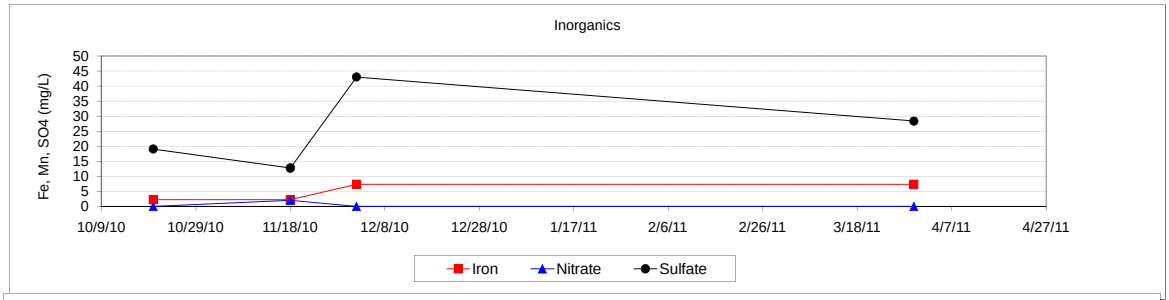


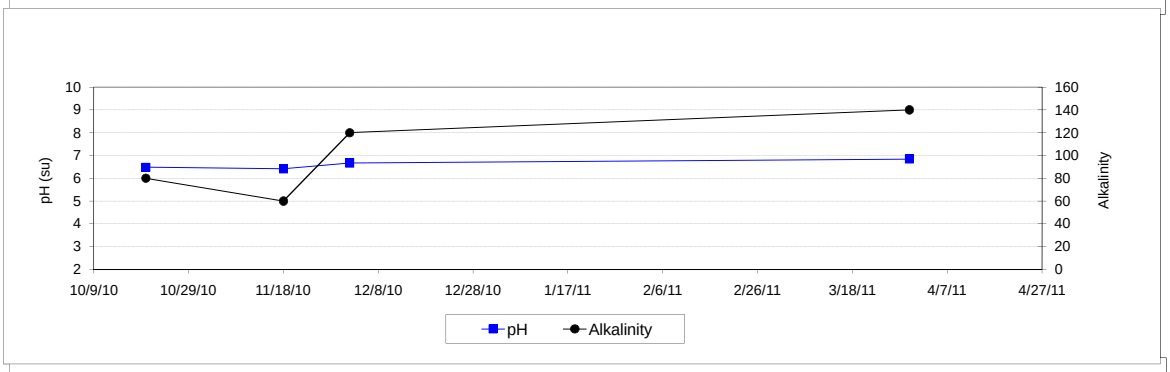



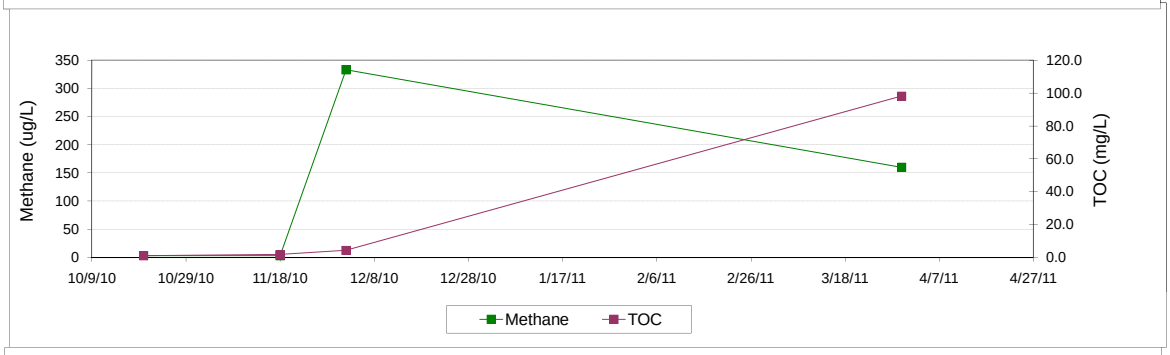



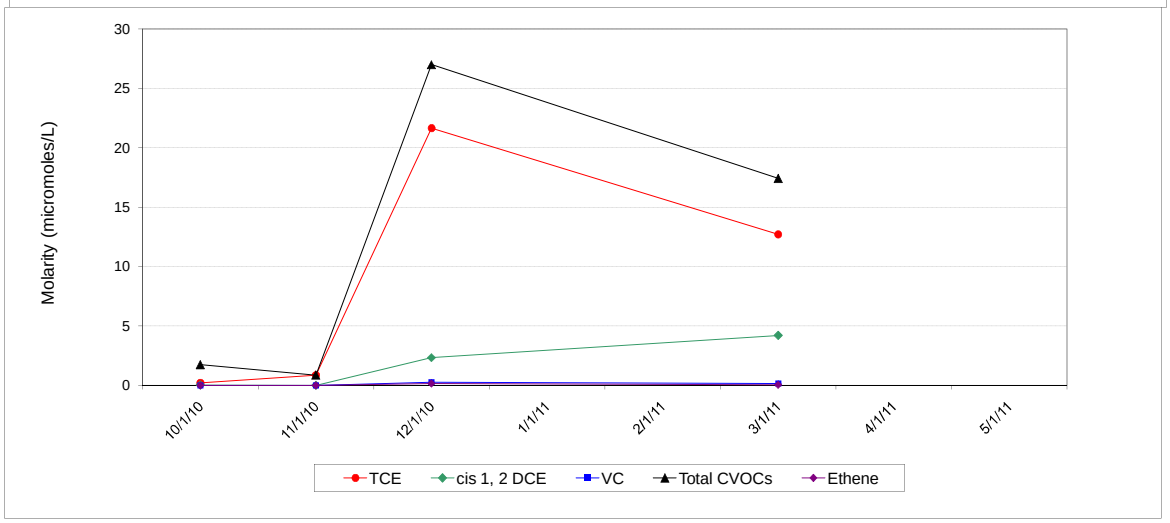



Northern Area Remediation Monitoring Data
REW-1
Former Raytheon Facility, Wayland, MA

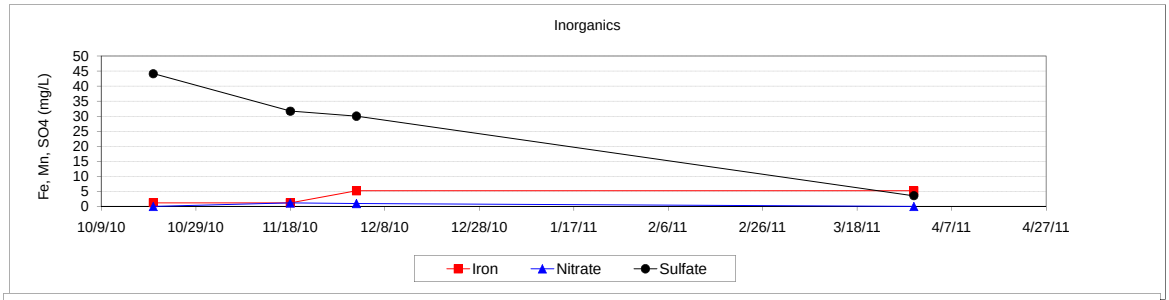


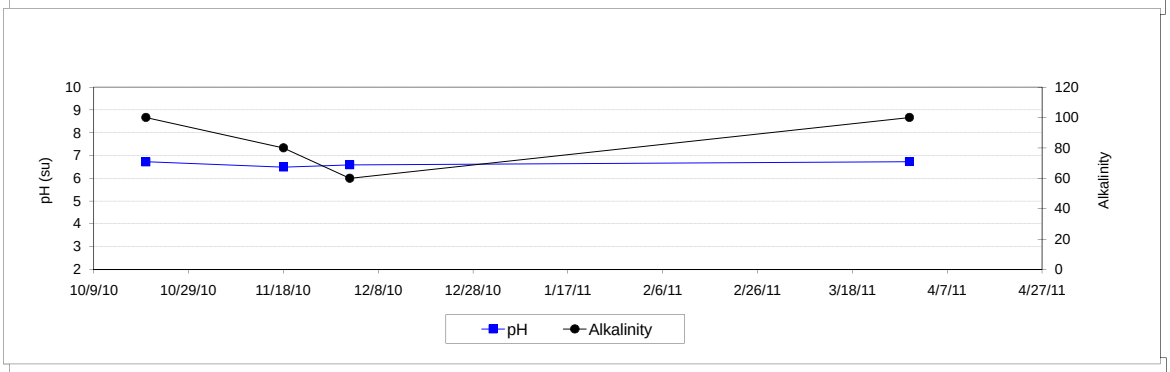



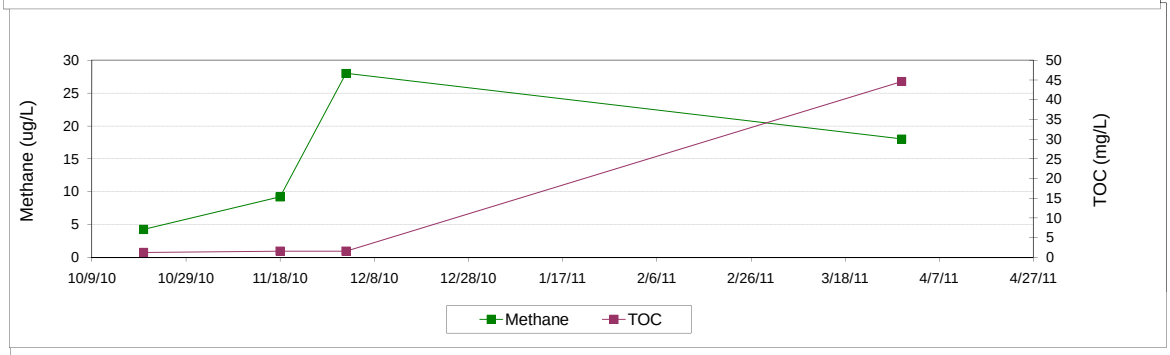



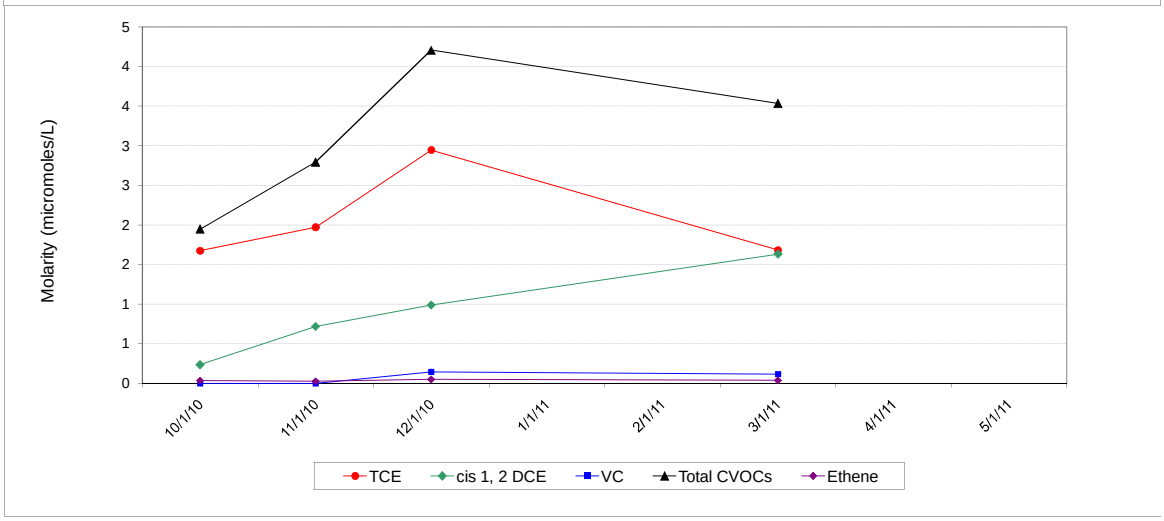



Northern Area Remediation Monitoring Data
REW-2
Former Raytheon Facility, Wayland, MA



# **Attachment C**

Well Construction Logs

# BORING LOG



| | | |
|---|---|---|
| Client: Raytheon | Site Name: Former Raytheon facility, Wayland, Ma | Boring/Well Identification: REW-3 |
| Drilling Contractor: Maher/Major | Borehole Start Date: 12/15/10 End Date: 12/15/10 | Borehole Start Time: 9:00 ☑ AM ☐ PM End Time: 3:00 ☐ AM ☑ PM |
| IESI Inspector: D. Falatko | Borehole Diameter (inches): Approx. 8-inches | Borehole Depth (feet): 50 |
| Borehole Location: Remediation Area | | |
| Drilling Method(s): Sonic | Apparent Borehole DTW (in feet from soil moisture content): 10 | Measured Well DTW (in feet after water recharges in well): nm |
| OVA (list model and bulb type for PID): ☐ FID ☐ PID | | |

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe):

| Depth (feet) | Sample Number | Sample Type | Sample Depth Interval | Sample Recovery (ft) | SPT Blows (per 6 inches) | Headspace Screening | Sample Description (include grain size based on USCS, odors, staining, and other remarks) | USCS Symbol | Moisture Content | Laboratory Samples (list sample number and depth) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | - | | | | | |
| 20 | | SC | 20 - 25 | 5 | - | | Silt w/clay, some portions with fine sand, gray, stiff, wet | | | |
| 25 | | SC | 25 - 30 | 5 | - | | Silt w/clay, some portions with fine sand, gray, stiff, wet | | | |
| 30 | | SC | 30 - 35 | 4 | - | | Silt w/clay, gray, from 30-33', stiff, wet, fine sand w/ silt at 33-35' | | | |
| 35 | | SC | 35 - 40 | 4 | - | | Fine sand w/silt, tan, some gray layers with clay, more sand, less silt at 40' | | | |
| 40 | | SC | 40 - 45 | 0 | - | | No recovery | | | |
| 45 | | SC | 45 - 50 | 0 | | | No recovery | | | |
| 50 | | | | | | | | | | |

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

| COHESIONLESS DENSITY | | COHESIVE CONSISTENCY | |
|---|---|---|---|
| 0-4 | VERY LOOSE | 0-2 | VERY SOFT |
| 5-9 | LOOSE | 3-4 | SOFT |
| 10-29 | MED. DENSE | 5-8 | M/STIFF |
| 30-49 | DENSE | 9-15 | STIFF |
| 50+ | VERY DENSE | 16-30 | V-STIFF |
| | | 31+ | HARD |

SAMPLE TYPES
**PH** = POST HOLE **ST** = SHELBY TUBE
**HA** = HAND AUGER **DP** = DIRECT PUSH
**SS** = SPLIT SPOON **SC** = SONIC CORE
**DC** = DRILL CUTTINGS

MOISTURE CONTENT
**D** = DRY
**M** = MOIST
**W** = WEST
**S** = SATURATED

# BORING LOG



| | | |
|---|---|---|
| Client: Raytheon | Site Name: Former Raytheon facility, Wayland, Ma | Boring/Well Identification: REW-4 |
| Drilling Contractor: Maher/Major | Borehole Start Date: 12/13/10 End Date: 12/13/10 | Borehole Start Time: 9:00 ☑ AM ☑ PM End Time: 2:00 ☐ AM ☑ PM |
| IESI Inspector: D. Falatko | Borehole Diameter (inches): Approx. 8-inches | Borehole Depth (feet): |
| Borehole Location: Northern Remediation Area | | |
| Drilling Method(s): Sonic | Apparent Borehole DTW (in feet from soil moisture content): 10 | Measured Well DTW (in feet after water recharges in well): |
| OVA (list model and bulb type for PID): ☐ FID ☐ PID | | |

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe):

| Depth (feet) | Sample Number | Sample Type | Sample Depth Interval | Sample Recovery (ft) | SPT Blows (per 6 inches) | Headspace Screening | Sample Description (include grain size based on USCS, odors, staining, and other remarks) | USCS Symbol | Moisture Content | Laboratory Samples (list sample number and depth) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | - | | | | | |
| 20 | | SC | 20 - 25 | | - | | Gray clay w/silt, stiff, plastic, wet | | | |
| 25 | | SC | 25 - 30 | | - | | Gray clay w/silt, stiff, plastic, mostly silt at 30', stiff, wet | | | |
| 30 | | SC | 30 - 35 | | - | | Gray silt w/clay to 33', tan fine silty sand at 33-35' | | | |
| 35 | | SC | 35 - 40 | | - | | Fine tan sand 35-38', silty gray fine sand 38-40' | | | |
| 40 | | SC | 40 - 45 | | - | | Fine sand w/silt, tan/gray, loose | | | |
| 45 | | SC | 45 - 50 | | | | Gray fine sand w/silt, silt w/clay at 48-50' | | | |
| 50 | | | | | | | | | | |

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

| COHESIONLESS DENSITY | | COHESIVE CONSISTENCY | |
|---|---|---|---|
| 0-4 | VERY LOOSE | 0-2 | VERY SOFT |
| 5-9 | LOOSE | 3-4 | SOFT |
| 10-29 | MED. DENSE | 5-8 | M/STIFF |
| 30-49 | DENSE | 9-15 | STIFF |
| 50+ | VERY DENSE | 16-30 | V-STIFF |
| | | 31+ | HARD |

SAMPLE TYPES
**PH** = POST HOLE **ST** = SHELBY TUBE
**HA** = HAND AUGER **DP** = DIRECT PUSH
**SS** = SPLIT SPOON **SC** = SONIC CORE
**DC** = DRILL CUTTINGS

MOISTURE CONTENT
**D** = DRY
**M** = MOIST
**W** = WEST
**S** = SATURATED

# BORING LOG



| | | |
|---|---|---|
| Client: Raytheon | Site Name: Former Raytheon facility, Wayland, Ma | Boring/Well Identification: REW-5 |
| Drilling Contractor: Maher/Major | Borehole Start Date: 12/13/10 End Date: 12/14/10 | Borehole Start Time: 3:00 ☐ AM ☑ PM End Time: 10:00 ☑ AM ☐ PM |
| IESI Inspector: D. Falatko | Borehole Diameter (inches): Approx. 8-inches | Borehole Depth (feet): |
| Borehole Location: Northern Remediation Area | | |
| Drilling Method(s): Sonic | Apparent Borehole DTW (in feet from soil moisture content): 10 | Measured Well DTW (in feet after water recharges in well): nm |
| OVA (list model and bulb type for PID): ☐ FID ☐ PID | | |

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe):

| Depth (feet) | Sample Number | Sample Type | Sample Depth Interval | Sample Recovery (ft) | SPT Blows (per 6 inches) | Headspace Screening | Sample Description (include grain size based on USCS, odors, staining, and other remarks) | USCS Symbol | Moisture Content | Laboratory Samples (list sample number and depth) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | - | | | | | |
| 20 | | SC | 20 - 25 | | - | | Gray clay w/silt, stiff, plastic, wet | | | |
| 25 | | SC | 25 - 30 | | - | | Gray clay w/silt, stiff, plastic, wet | | | |
| 30 | | SC | 30 - 35 | | - | | Gray clay w/silt 35-37', fine sand w/silt 36-40' | | | |
| 35 | | SC | 35 - 40 | | - | | Gray fine sand w/silt | | | |
| 40 | | SC | 40 - 45 | | - | | Gray fine sand w/silt | | | |
| 45 | | SC | 45 - 50 | | | | Gray silt w/fine sand | | | |
| 50 | | | | | | | | | | |

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

| COHESIONLESS DENSITY | | COHESIVE CONSISTENCY | |
|---|---|---|---|
| 0-4 | VERY LOOSE | 0-2 | VERY SOFT |
| 5-9 | LOOSE | 3-4 | SOFT |
| 10-29 | MED. DENSE | 5-8 | M/STIFF |
| 30-49 | DENSE | 9-15 | STIFF |
| 50+ | VERY DENSE | 16-30 | V-STIFF |
| | | 31+ | HARD |

SAMPLE TYPES
**PH** = POST HOLE **ST** = SHELBY TUBE
**HA** = HAND AUGER **DP** = DIRECT PUSH
**SS** = SPLIT SPOON **SC** = SONIC CORE
**DC** = DRILL CUTTINGS

MOISTURE CONTENT
**D** = DRY
**M** = MOIST
**W** = WEST
**S** = SATURATED

# **Attachment D**

Well Sampling Logs

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **REW-2** | DATE | 18-Oct-10 |
| TIME | START END | | |

***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081

### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: 7.00 FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: 8.00 FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

WELL INTEGRITY

| | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 5 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 20 m | 7 00 | 400ml/min | | 235 | 6 65 | 0 26 | NM | -30 | clear |
| 30 m | 8 00 | | | 236 | 6 69 | 0 3 | NM | -33 | clear |
| 40 m | 8 00 | | | 234 | 6 69 | 0 2 | NM | -35 | clear |
| | | | | | | | | | |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **REW-1** | DATE | 18-Oct-10 |
| TIME | START END | | |

***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081

### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: 7.00 FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: 8.00 FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

WELL INTEGRITY

| | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 5.5 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 20 m | 7 00 | 400ml/min | | 153 | 6 37 | 1 15 | NM | 153 | clear |
| 30 m | 8 00 | | | 157 | 6 32 | 1 11 | NM | 157 | clear |
| 40 m | 8 00 | | | 162 | 6 3 | 1 09 | NM | 157 | clear |
| 50 m | 8 00 | | | 162 | 6 27 | 1 07 | NM | 157 | |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **RIW-3** | DATE | 18-Oct-10 |
| TIME | START END | | |

***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081

### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: 7.00 FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: 8.00 FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 5 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

| WELL INTEGRITY | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 20 m | 7 00 | 400ml/min | | 205 | 6 39 | 0 22 | NM | -30 | clear |
| 30 m | 8 00 | | | 202 | 6 39 | 0 14 | NM | -37 | clear |
| 40 m | 8 00 | | | 200 | 6 37 | 0 14 | NM | -40 | clear |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **RIW-2** | DATE | 18-Oct-10 |
| TIME | START END | | |

***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081

### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: 7.00 FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: 8.00 FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 5 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

| WELL INTEGRITY | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 20 m | 7 00 | 400ml/min | | 260 | 6 5 | 0 15 | NM | -15 | clear |
| 30 m | 8 00 | | | 252 | 6 52 | 0 16 | NM | -13 6 | clear |
| 40 m | 8 00 | | | 253 | 6 5 | 0 16 | NM | -15 | clear |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **RIW-1** | DATE | 18-Oct-10 |
| TIME | START END | | |

***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081

### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: 7.00 FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: 8.00 FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

WELL INTEGRITY

| | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 5 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 20 m | 7 00 | 400ml/min | | 196 | 6 39 | 0 33 | NM | 15 | clear |
| 30 m | 8 00 | | | 207 | 6 32 | 0 3 | NM | 18 5 | clear |
| 40 m | 8 00 | | | 208 | 6 32 | 0 3 | NM | 18 3 | clear |
| | | | | | | | | | |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **REW-2** | DATE | 2-Dec-10 |
| TIME | START END | | |

***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081

### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: nm FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: nm FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

WELL INTEGRITY

| | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 1 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 4 m | nm | 200ml/min | 10 1 | 260 | 6 58 | 2 | NM | 43 | clear |
| 8 m | nm | | 10 1 | 262 | 6 58 | 1 8 | NM | 40 | clear |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | well was pumping | | | | | |
| | | | | | | | | | |
| | | | | 79887 gal | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **REW-1** | DATE | 2-Dec-10 |
| TIME | START END | | |


***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081


### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: NM FT

WELL DEPTH: FT

WELL DIAMETER: 4 IN

FINAL DEPTH TO WATER: NM FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 1 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

| WELL INTEGRITY | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 4 m | nm | 200ml/min | | 361 | 6 65 | 2 | NM | 30 | cloudy |
| 8 m | nm | | | 367 | 6 54 | 2 | NM | 37 | cloudy |
| 10m | nm | | | 366 | 6 52 | 1 2 | NM | 31 | cloudy |
| | | | | | | | | | |
| | well was pumping | | | | | | | | |
| | | | | | | | | | |
| | | | | 81323 gal | | | | | |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

## FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| PROJECT | **Raytheon-Wayland MA** | JOB NUMBER | RA008 |
| WELL ID | **MW562** | DATE | 2-Dec-10 |
| TIME | START END | | |


***Innovative Engineering Solutions, Inc.***
25 Spring Street
Walpole Massachusetts 02081


### WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
- ☐ TOP OF WELL RISER
- ☐ TOP OF PROTECTIVE CASING
- ☐ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): FT

PROTECTIVE CASING/WELL DIFFERENCE: FT

INITIAL DEPTH TO WATER: 7.00 FT

WELL DEPTH: FT

WELL DIAMETER: 1.5

FINAL DEPTH TO WATER: 8.00 FT

SCREEN LENGTH: FT

PID AMBIENT AIR: NA PPM

DRAWDOWN VOLUME: GAL
(initial - final x 0 163 {2-inch} or x 0 654 {4-inch})

PID WELL MOUTH: NA PPM

TOTAL VOLUME PURGED: 4 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0 00026 gal/millilter)

| WELL INTEGRITY | YES | NO | N/A |
|---|---|---|---|
| CAP | ☐ | ☐ | ☐ |
| CASING | ☐ | ☐ | ☐ |
| LOCKED | ☐ | ☐ | ☐ |
| COLLAR | ☐ | ☐ | ☐ |

### PURGE DATA

| TIME | DEPTH TO WATER (ft) | PURGE RATE (ml/min) | TEMP (deg C) | SPECIFIC CONDUCTANCE (mg/cm) | pH (units) | DISS $O_2$ (mg/L) | TURBIDITY (ntu) | REDOX (mv) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 20 m | 7 00 | 400ml/min | | 337 | 6 48 | 0 38 | NM | -36 | clear |
| 30 m | 8 00 | | | 350 | 6 87 | 0 48 | NM | -47 | clear |
| 40 m | 8 00 | | | 350 | 6 62 | 0 34 | NM | -43 | clear |
| | | | | | | | | | |
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### EQUIPMENT DOCUMENTATION

| TYPE OF PUMP | TYPE OF TUBING | TYPE OF PUMP MATERIAL |
|---|---|---|
| GEO 2 | SILICON/ POLY | Peristaltic |

### ANALYTICAL PARAMETERS

| | METHOD NUMBER | PRESERVATION METHOD | VOLUME REQUIRED | SAMPLE COLLECTED | SAMPLE RESULTS |
|---|---|---|---|---|---|
| ☐ MADEP VPH w/ All Targets | MADEP | HCL/4 DEG C | 3 x 40 ml | ☐ | NA |
| ☐ MADEP EPH w/ All Targets | MADEP | H2SO4 | 2 x 1 Liter | ☐ | NA |
| ☐ Available Cyanide Filtered | - | NAOH | 1 x 250 ml | ☐ | NA |
| ☐ Total & PAC Cyanide | - | NAOH | 1 x 500 ml | ☐ | NA |
| ☐ Total Organic Carbon | - | H2SO4 | 1 x 250 ml | ☐ | NA |
| ☐ Alkalinity | - | None | 1 x 250 ml | ☐ | NA |
| ☐ Sulfate & Methane | BTC | None | 2 x 40 ml | ☐ | NA |
| ☐ $CO_2$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Fe | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ Mn | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NH_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $NO_3$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |
| ☐ $PO_4$ | Field Kit | None | 1 x 8 oz Jar | ☐ | |

### PURGE OBSERVATIONS

PURGE WATER DESCRIPTION

PURGE WATER CONTAINERIZED: Pour back into O/S

NUMBER OF BUCKETS GENERATED

### NOTES

SIGNATURE _____

*Appendix E*
*Southern Area Vertical Profiling Logs*

ERM
399 Boylston St., 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-101



**Client:** Raytheon Company

**Project Name:** Former Raytheon Wayland Facility Investigation

**Project Number:** 0114119

**Project Location:** 430 Boston Post Road, Wayland, MA

**CONTRACTOR:** Stone Environmental, Inc.

**DATE MIP COMPLETED:** 11/8/10

**DATE WATERLOO APS COMPLETED:** 11/8/10

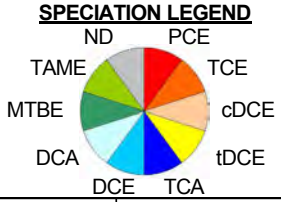
**GROUND SURFACE ELEVATION:** 133.28 ft above MSL

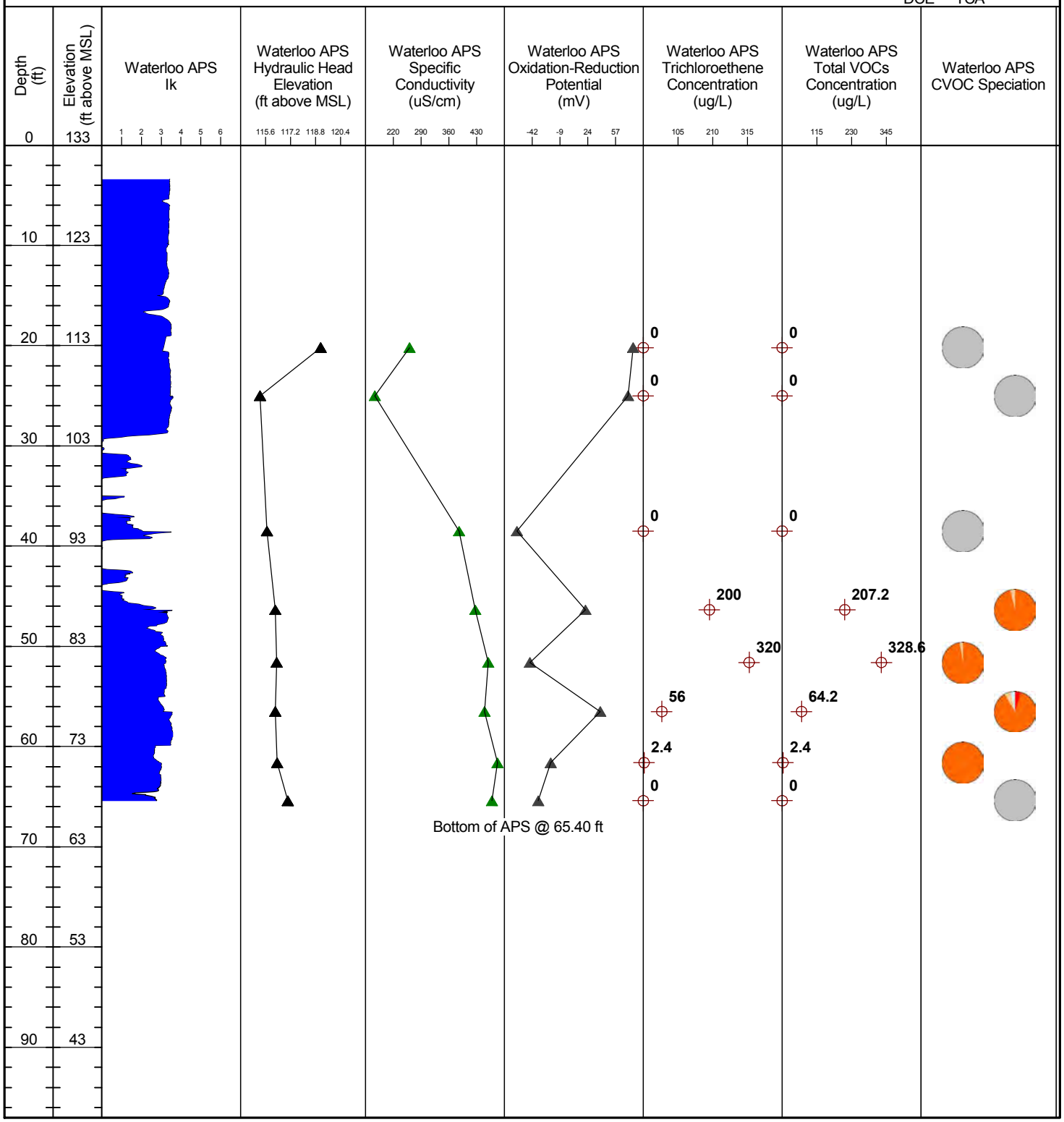
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
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Fax: (617) 267-6447

# APS-102



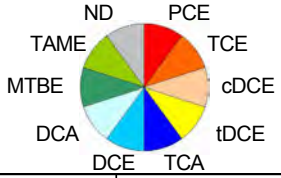
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

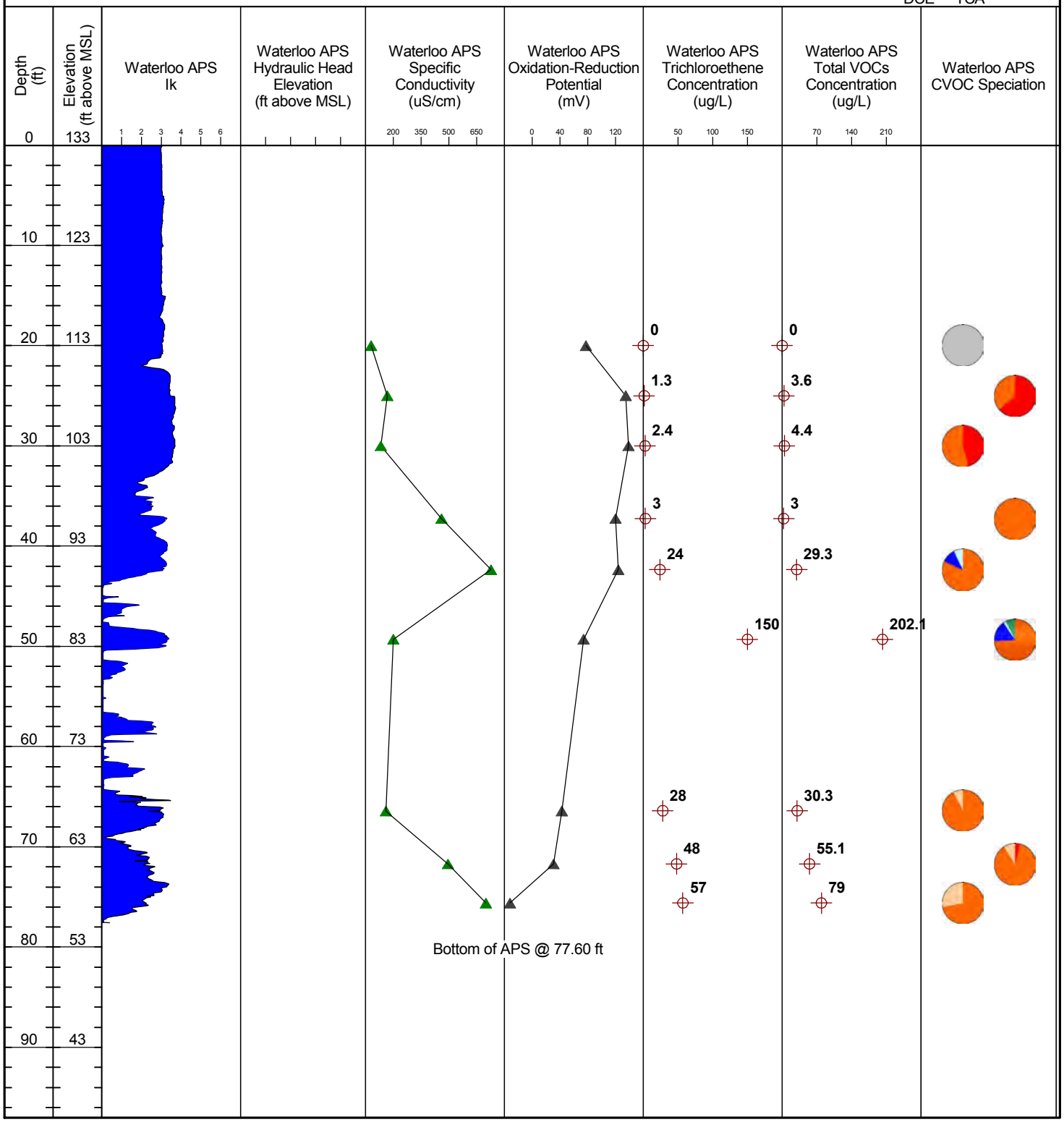
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/8/10
**DATE WATERLOO APS COMPLETED:** 11/9/10
**GROUND SURFACE ELEVATION:** 133.13 ft above MSL
**NOTES:** No hydraulic head measurements were collected.

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
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Fax: (617) 267-6447

# APS-103



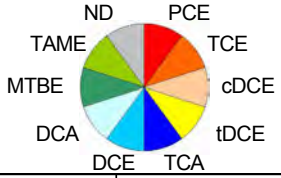
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

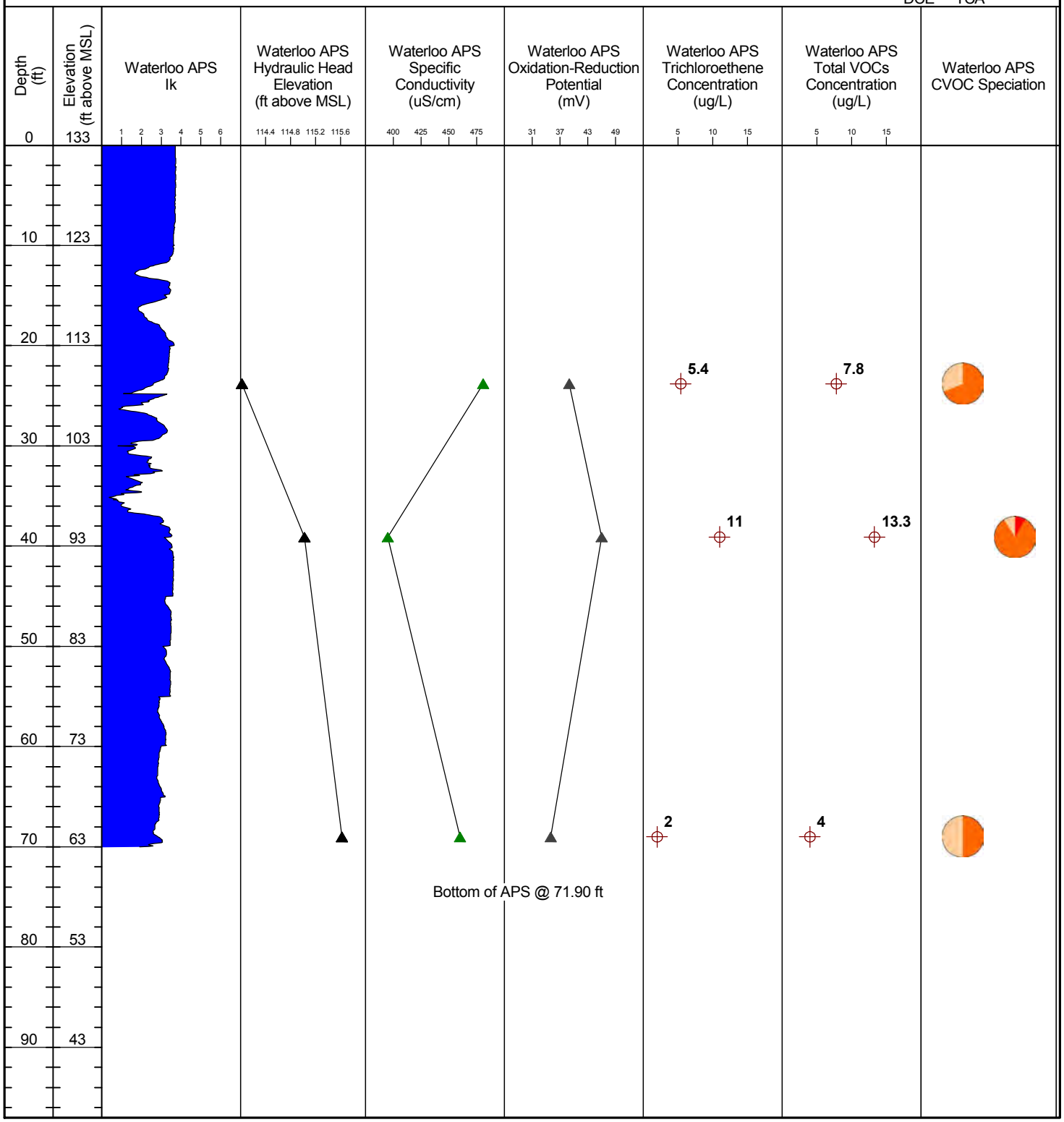
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/9/10
**DATE WATERLOO APS COMPLETED:** 11/9/10
**GROUND SURFACE ELEVATION:** 132.87 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-104



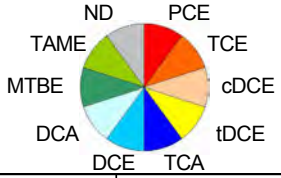
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

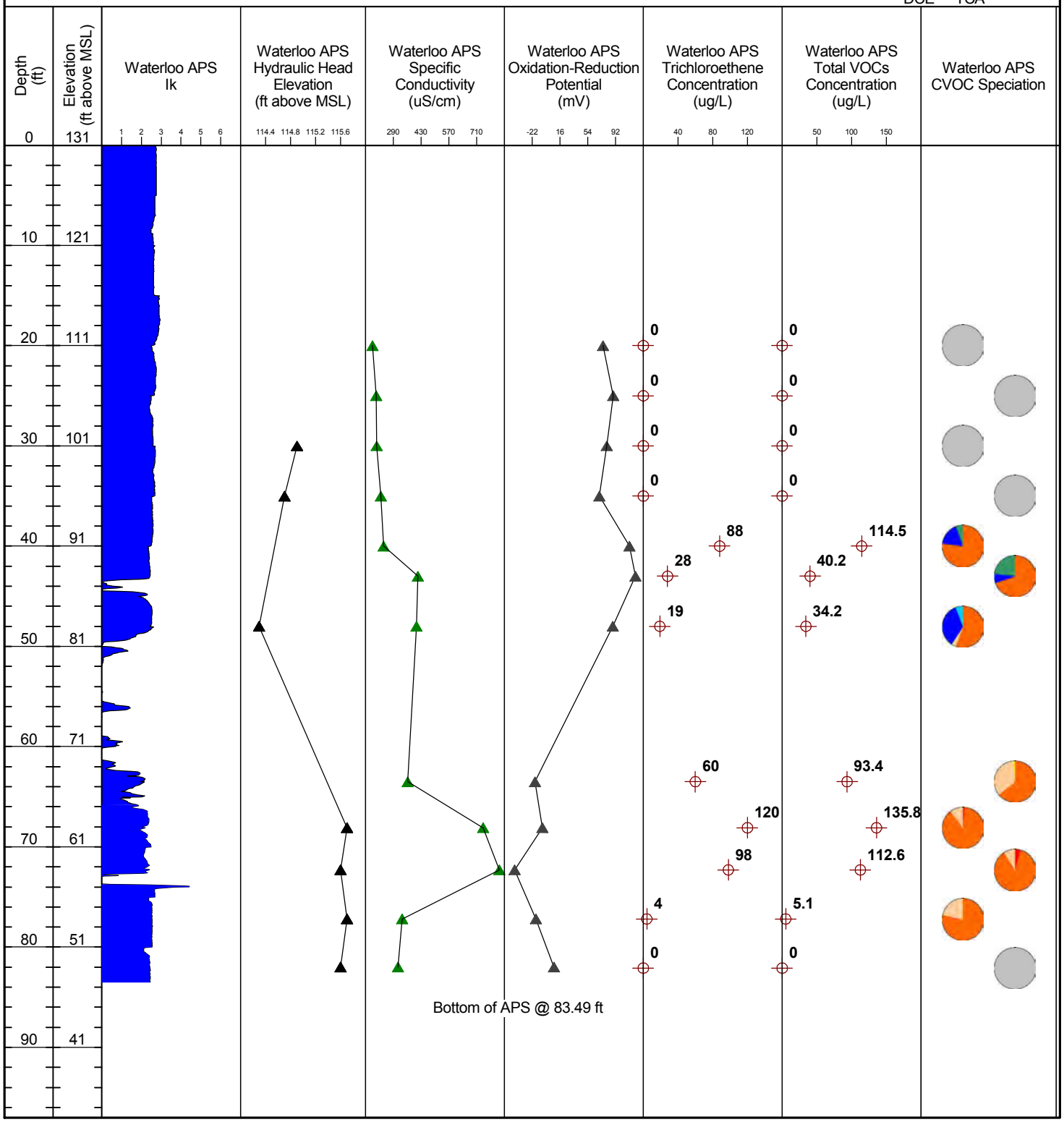
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/9/10
**DATE WATERLOO APS COMPLETED:** 11/10/10
**GROUND SURFACE ELEVATION:** 130.6 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-105



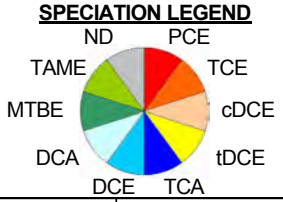
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

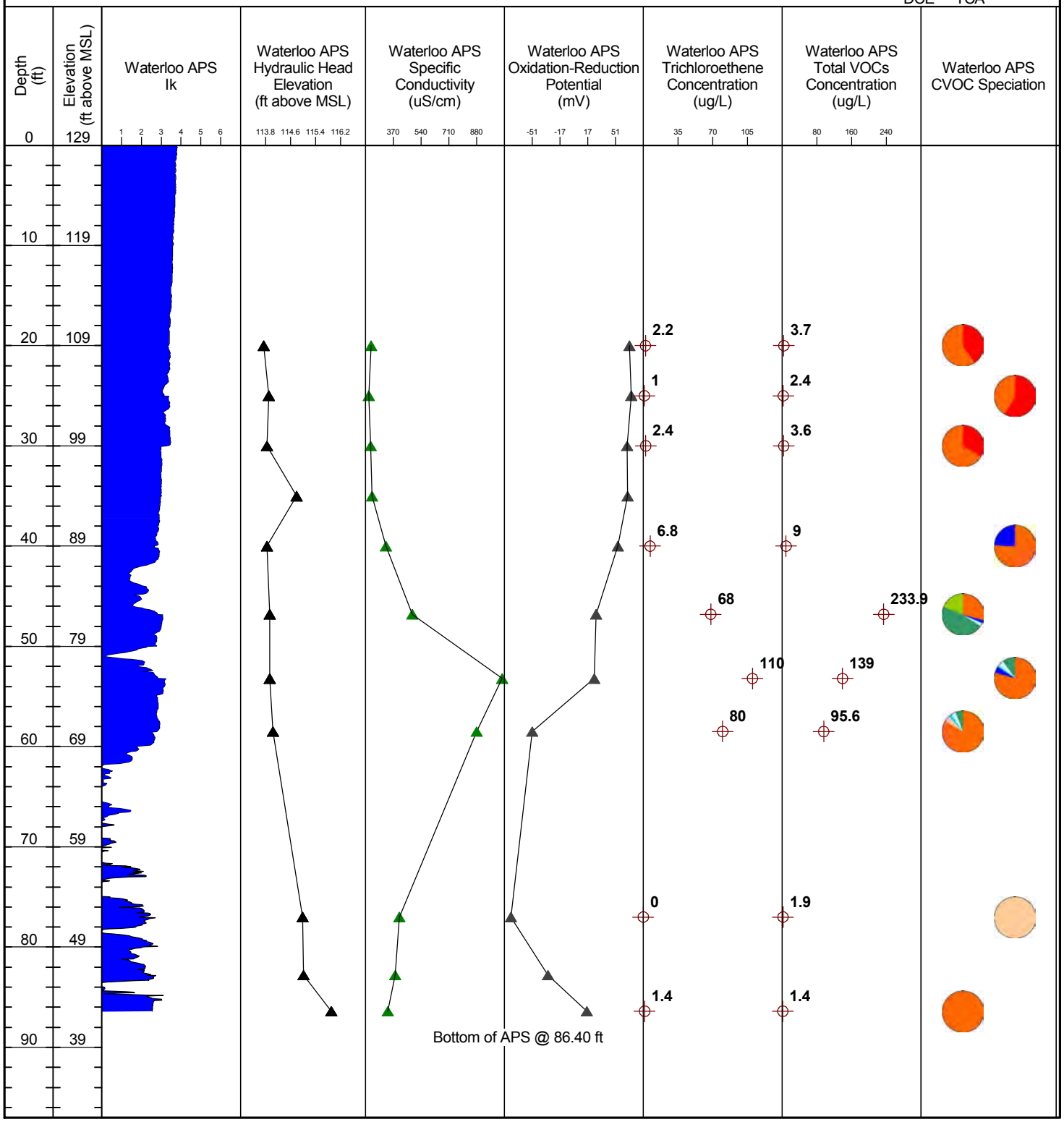
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/9/10
**DATE WATERLOO APS COMPLETED:** 10/10/10
**GROUND SURFACE ELEVATION:** 128.74 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-106



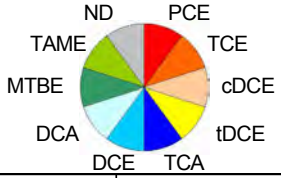
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

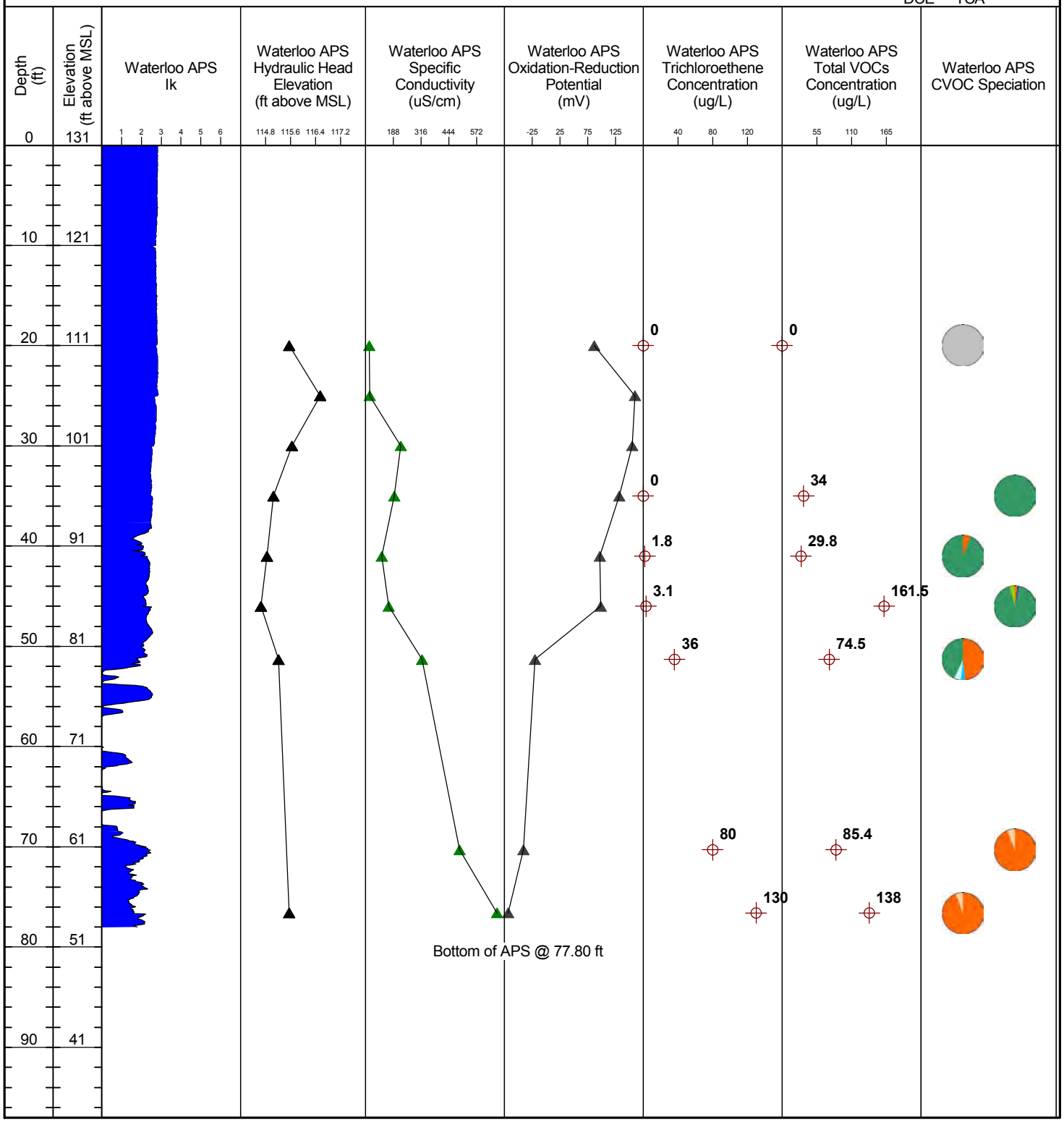
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/11/10
**DATE WATERLOO APS COMPLETED:** 11/11/10
**GROUND SURFACE ELEVATION:** 131.05 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-107

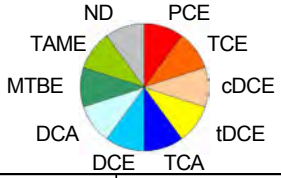


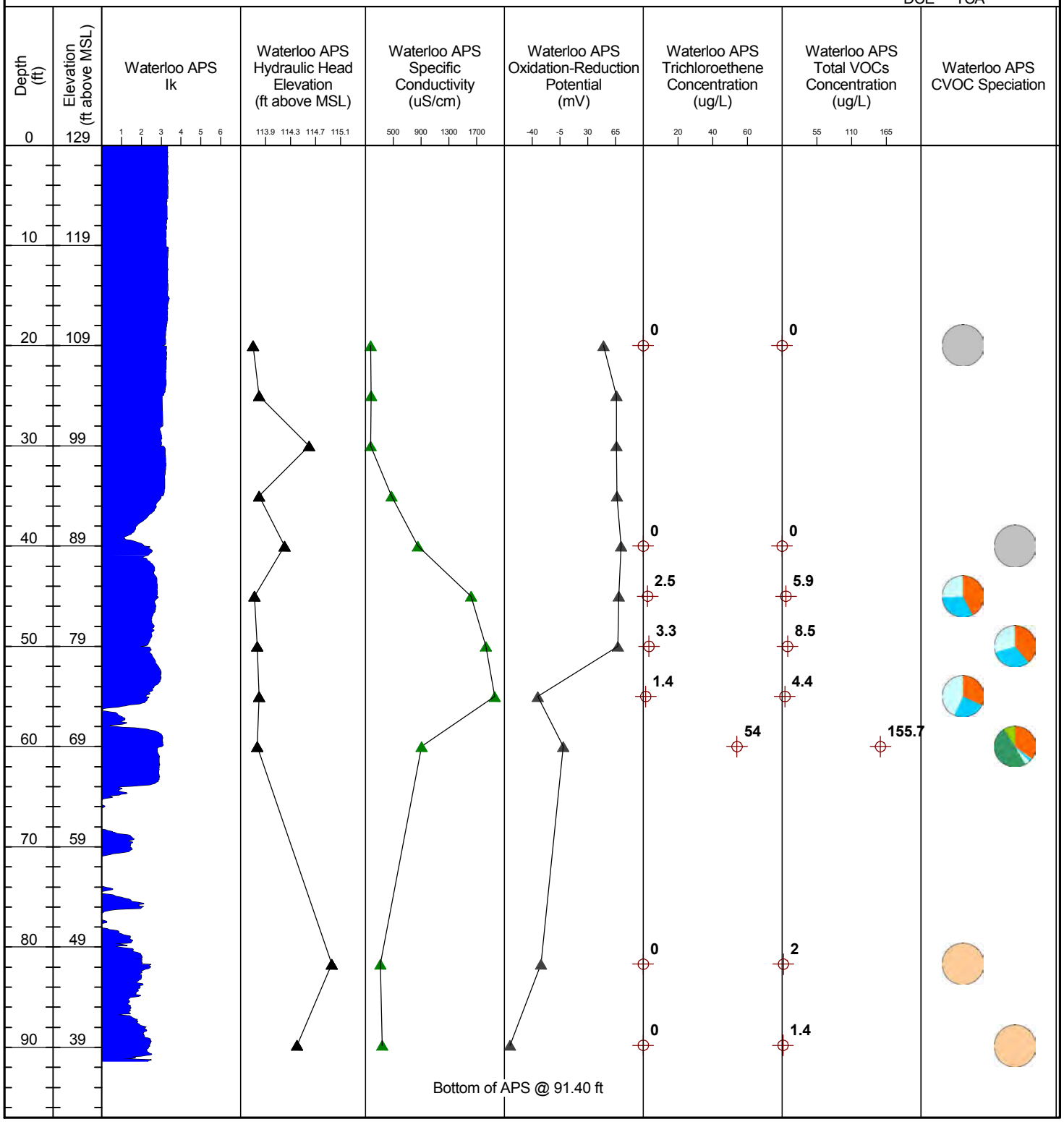
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/10/10
**DATE WATERLOO APS COMPLETED:** 11/11/10
**GROUND SURFACE ELEVATION:** 128.9 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
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Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-108



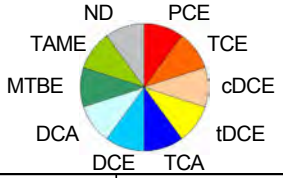
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

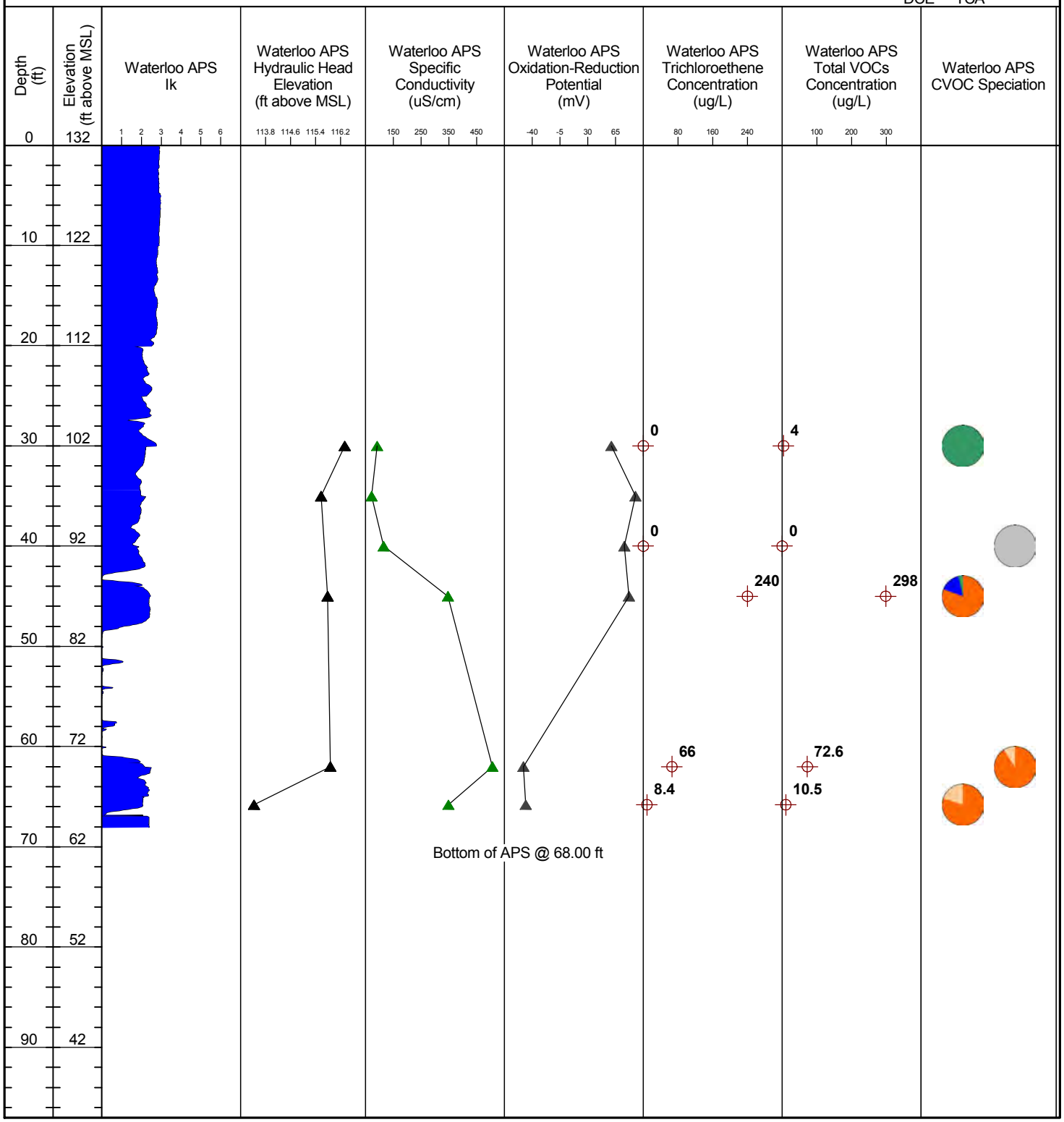
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/11/10
**DATE WATERLOO APS COMPLETED:** 11/12/10
**GROUND SURFACE ELEVATION:** 132.08 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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399 Boylston St., 6th Floor
Boston, MA 02116
Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-109



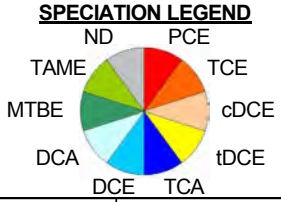
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

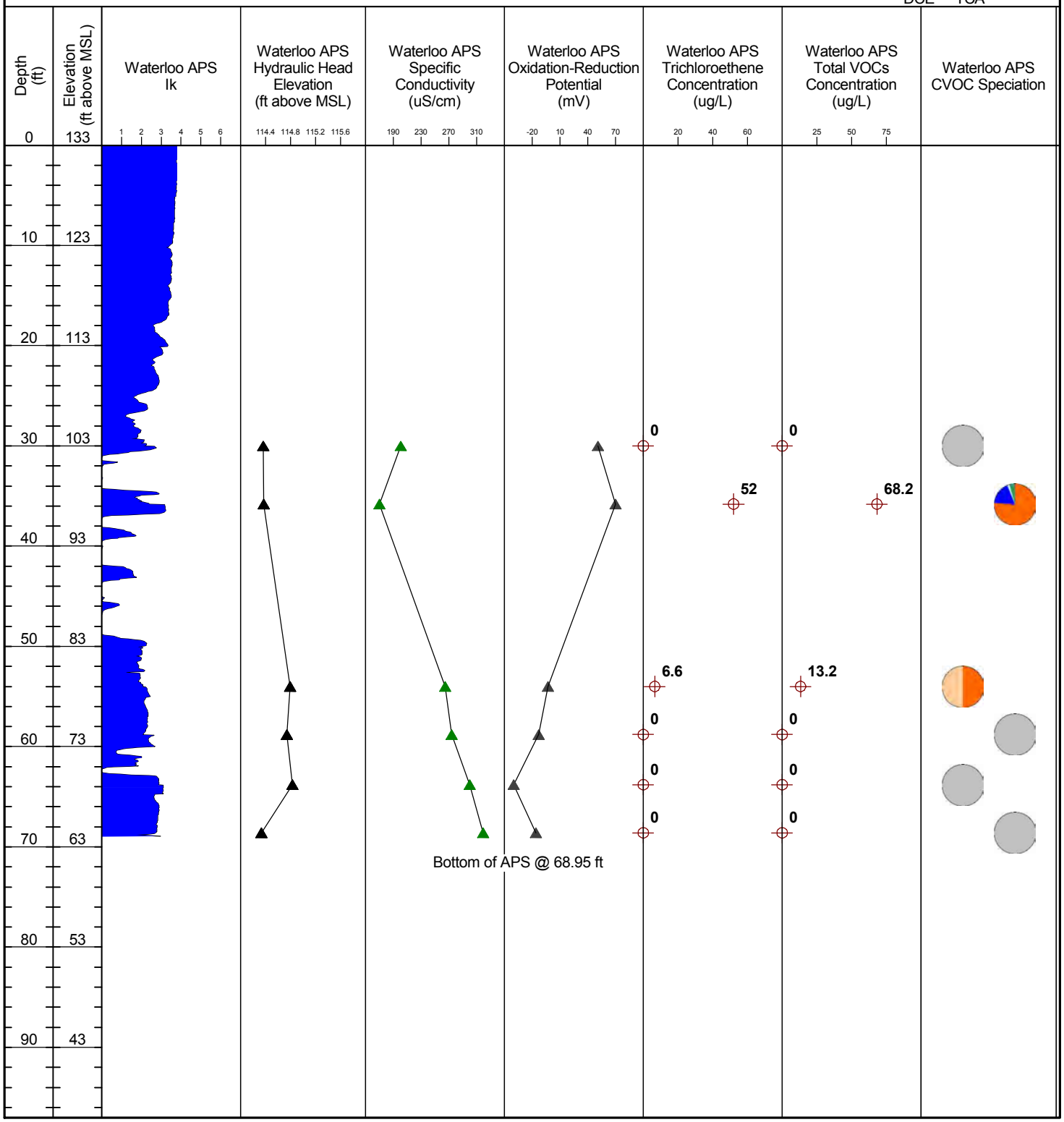
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/11/10
**DATE WATERLOO APS COMPLETED:** 11/12/10
**GROUND SURFACE ELEVATION:** 132.89 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-110



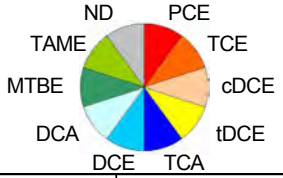
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

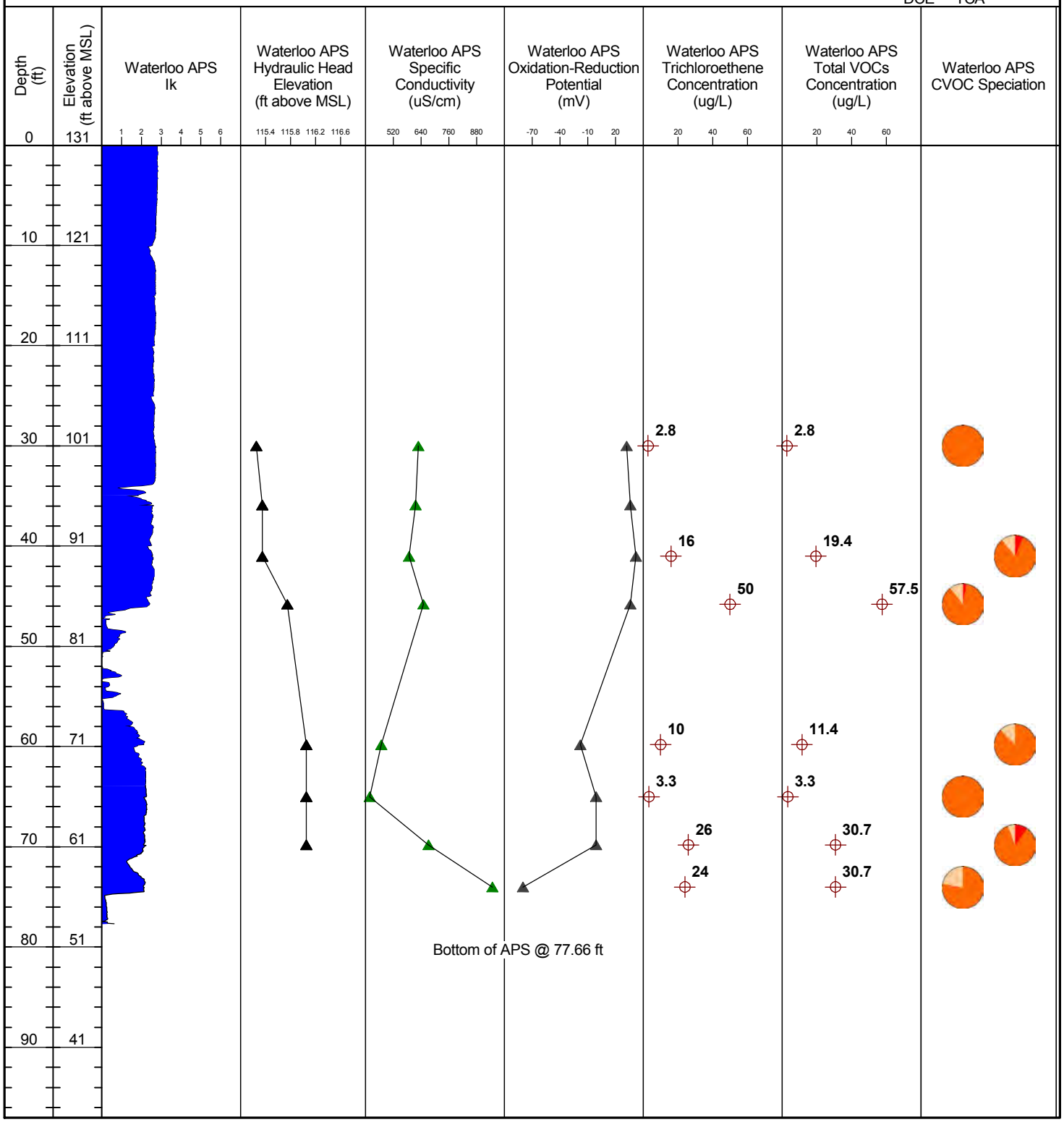
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/12/10
**DATE WATERLOO APS COMPLETED:** 11/15/10
**GROUND SURFACE ELEVATION:** 131.05 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-111



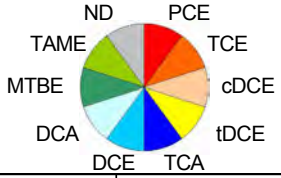
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

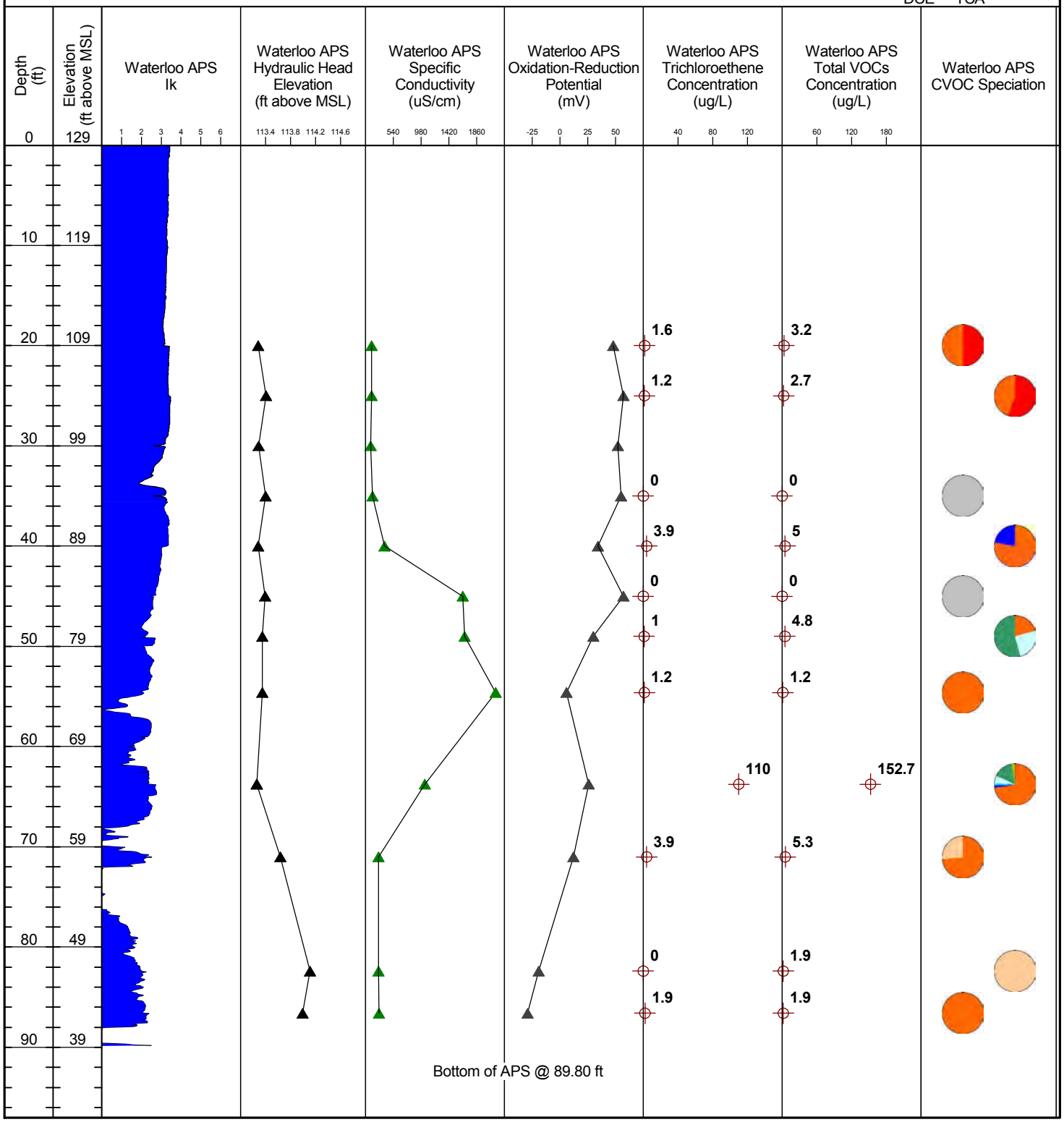
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/12/10
**DATE WATERLOO APS COMPLETED:** 11/15/10
**GROUND SURFACE ELEVATION:** 128.91 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-112



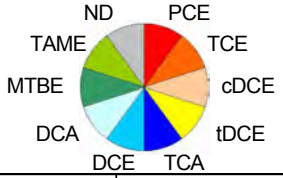
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

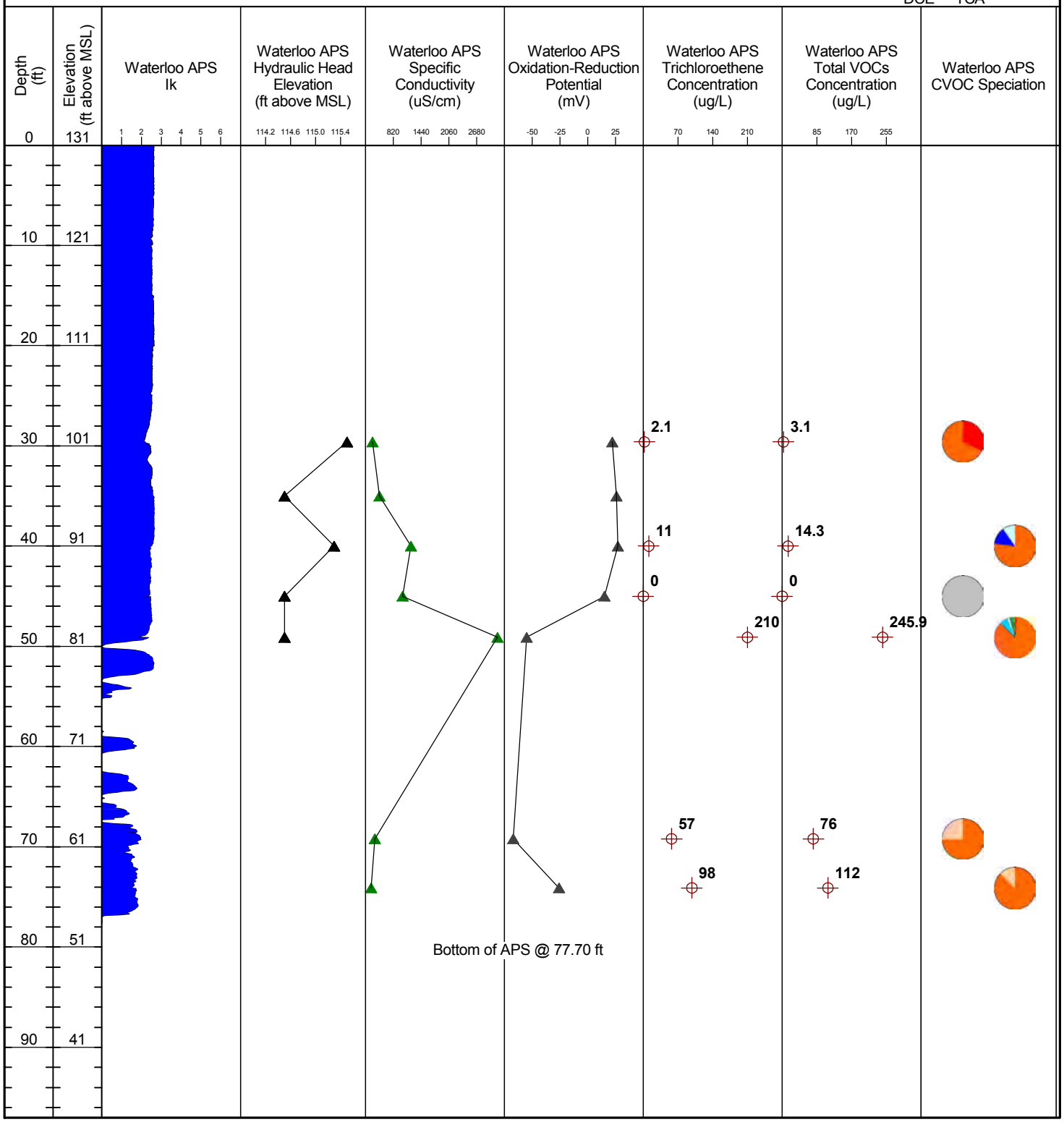
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/15/10
**DATE WATERLOO APS COMPLETED:** 11/16/10
**GROUND SURFACE ELEVATION:** 130.8 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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Fax: (617) 267-6447

# APS-113



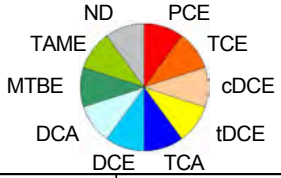
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

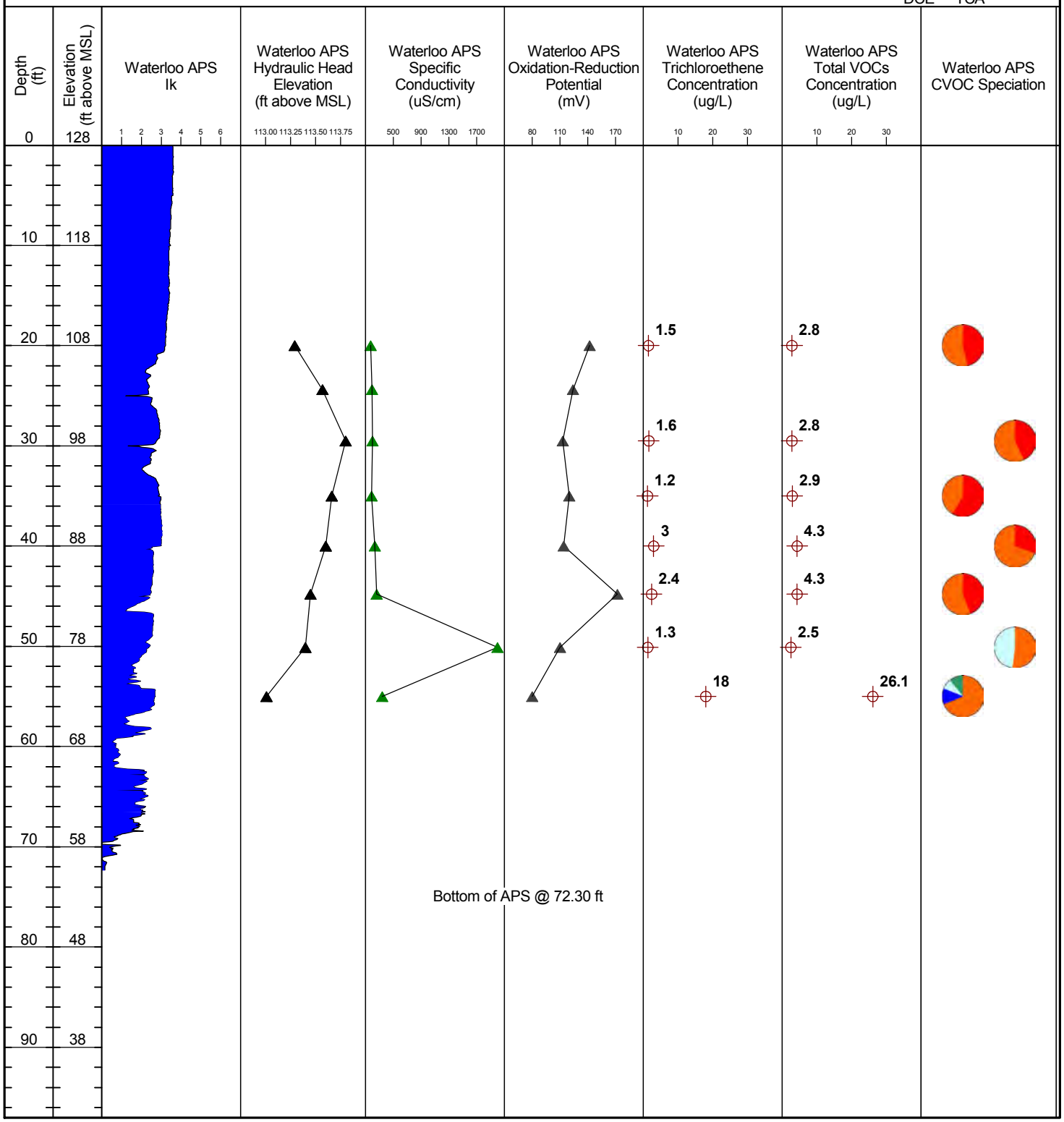
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/15/10
**DATE WATERLOO APS COMPLETED:** 11/16/10
**GROUND SURFACE ELEVATION:** 127.75 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-114



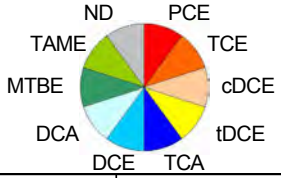
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

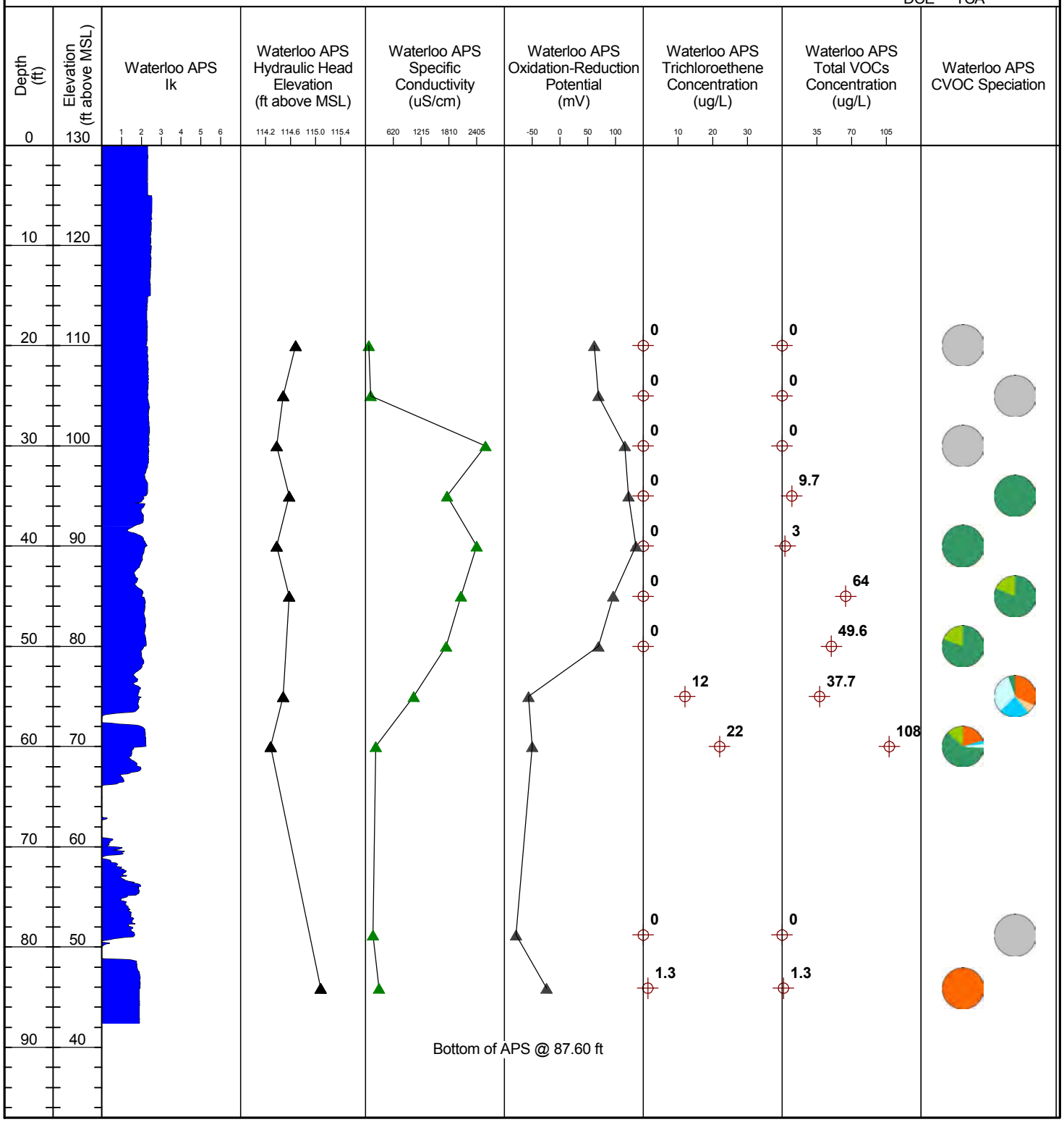
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/16/10
**DATE WATERLOO APS COMPLETED:** 11/17/10
**GROUND SURFACE ELEVATION:** 130.28 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-115



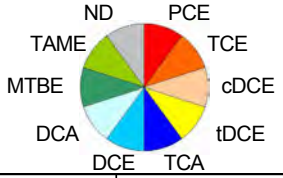
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

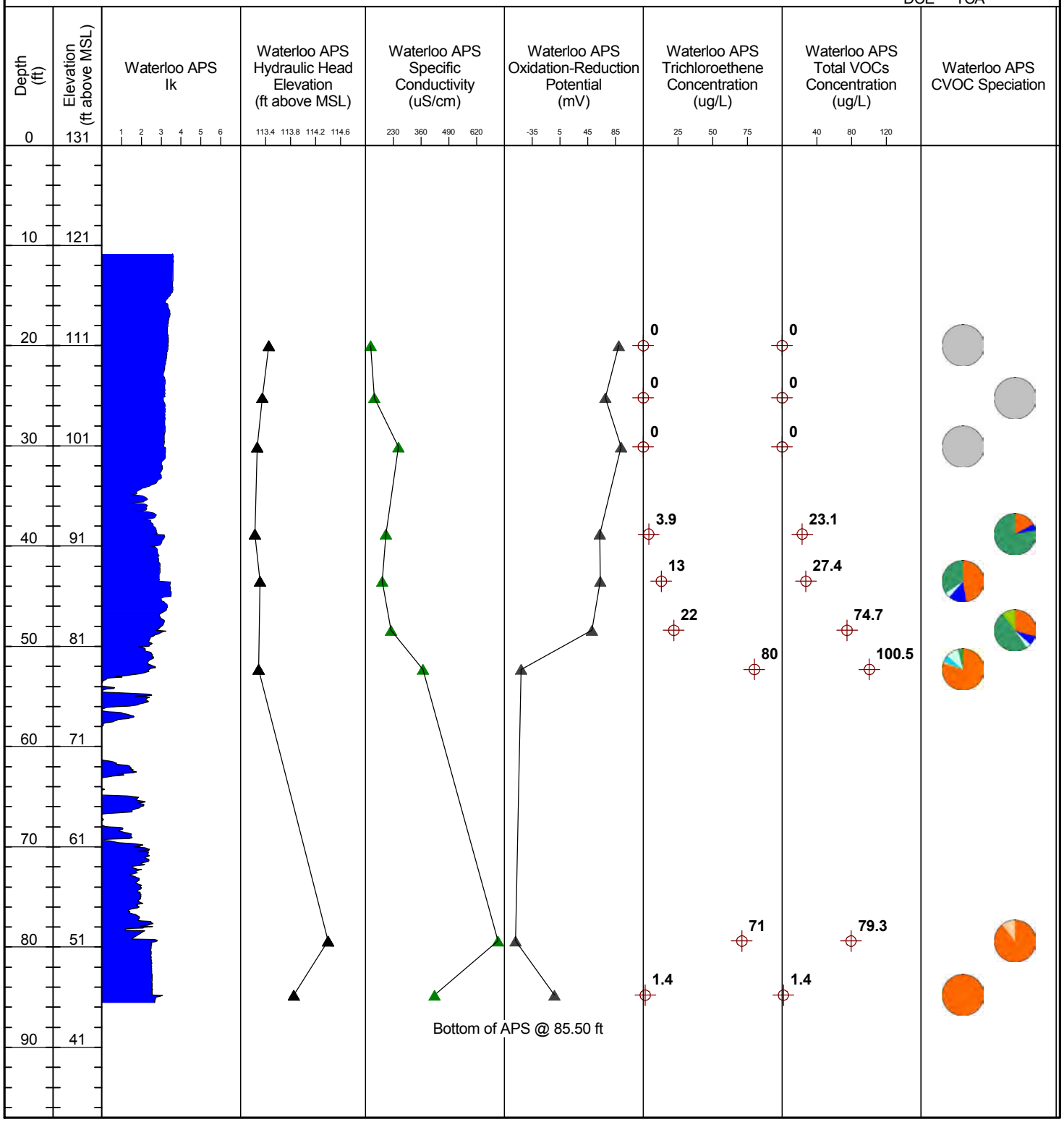
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/16/10
**DATE WATERLOO APS COMPLETED:** 11/17/10
**GROUND SURFACE ELEVATION:** 131.15 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-116



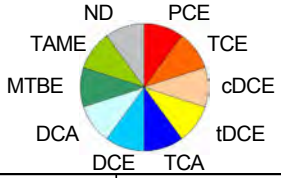
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

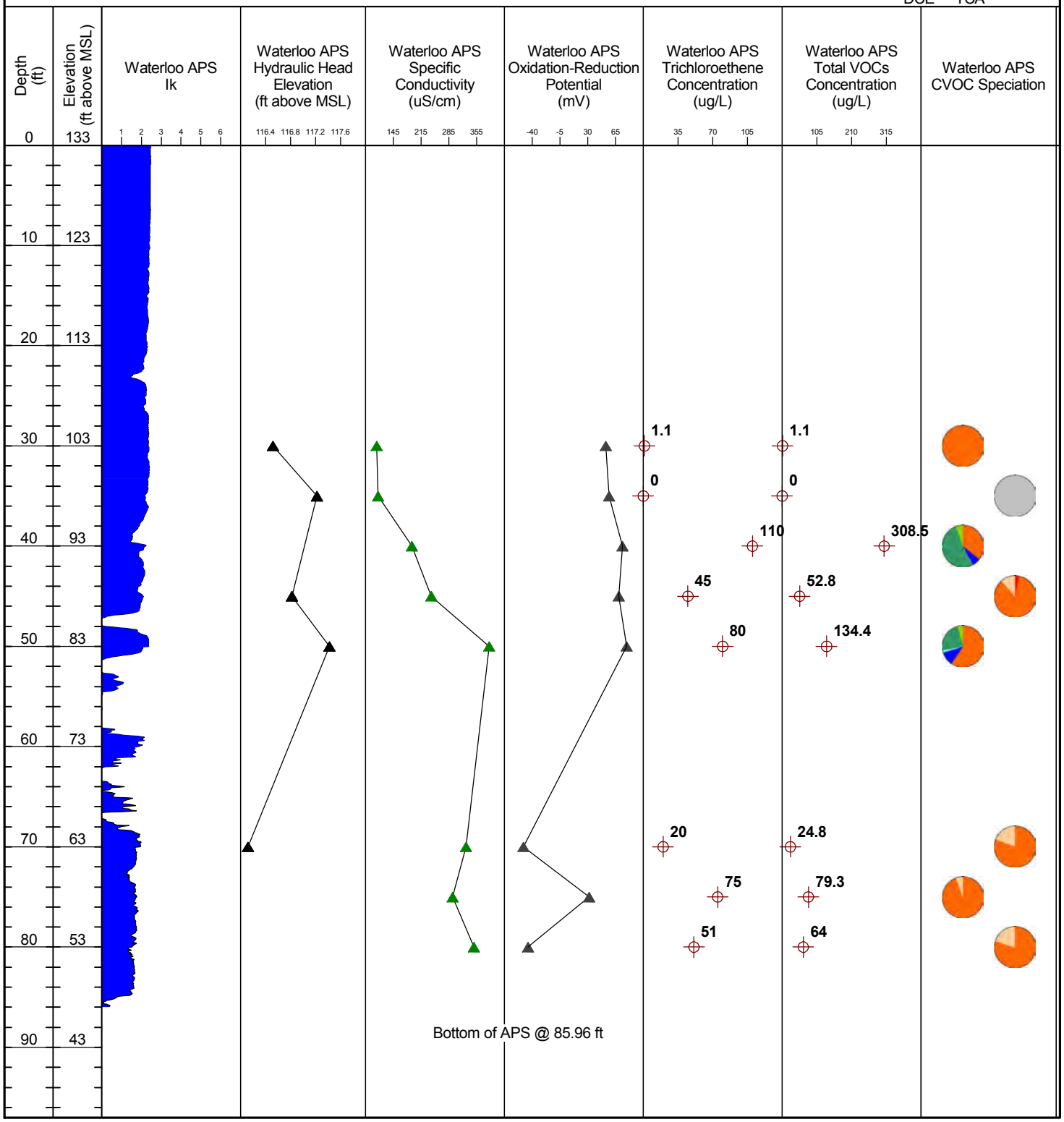
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/17/10
**DATE WATERLOO APS COMPLETED:** 11/18/10
**GROUND SURFACE ELEVATION:** 132.62 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-117



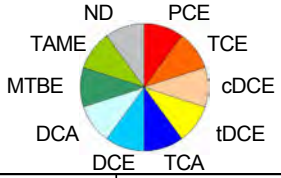
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

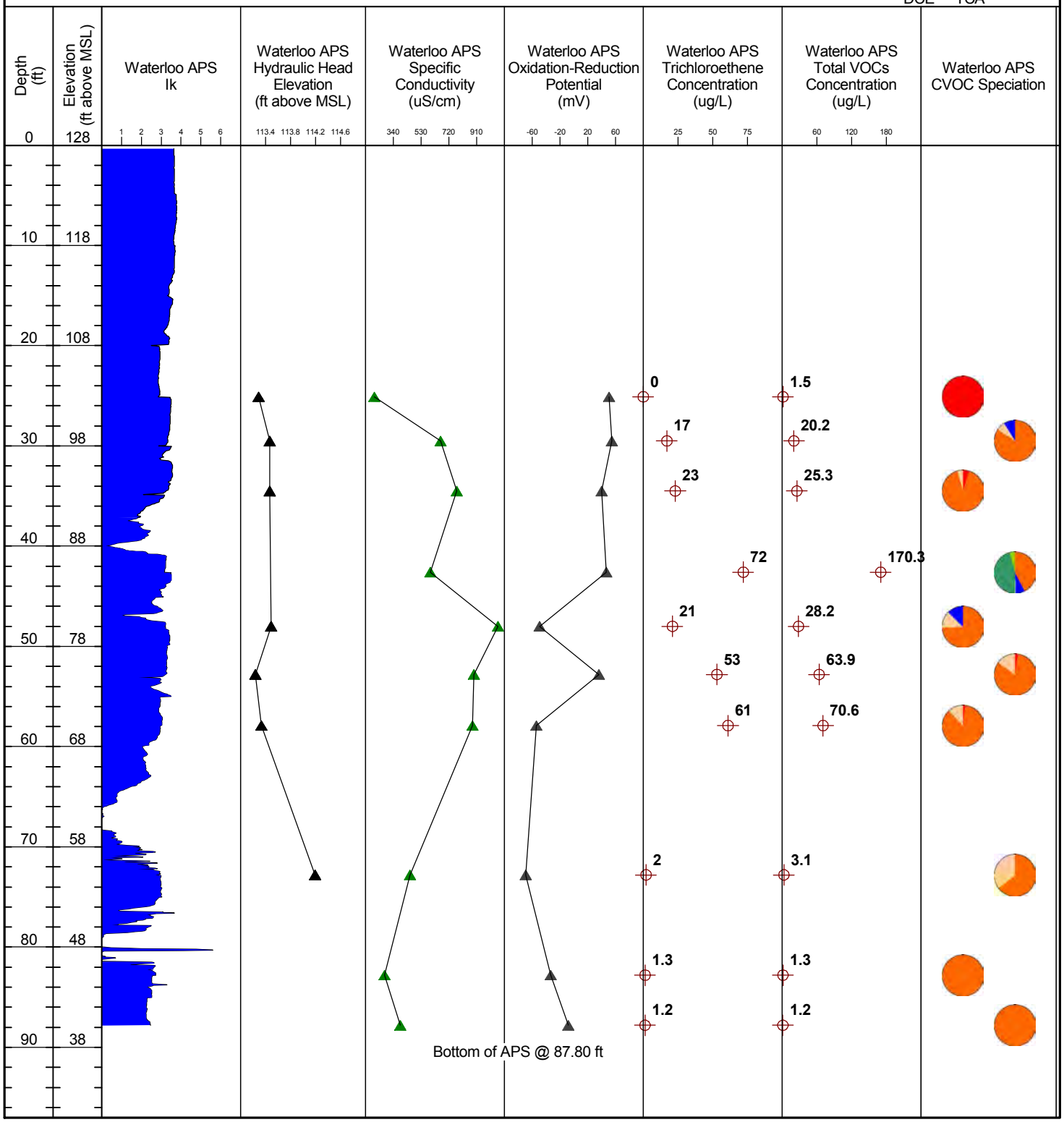
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/17/10
**DATE WATERLOO APS COMPLETED:** 11/18/10
**GROUND SURFACE ELEVATION:** 128.49 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-118



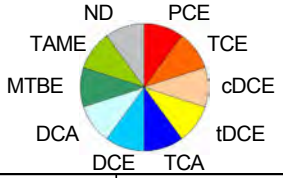
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

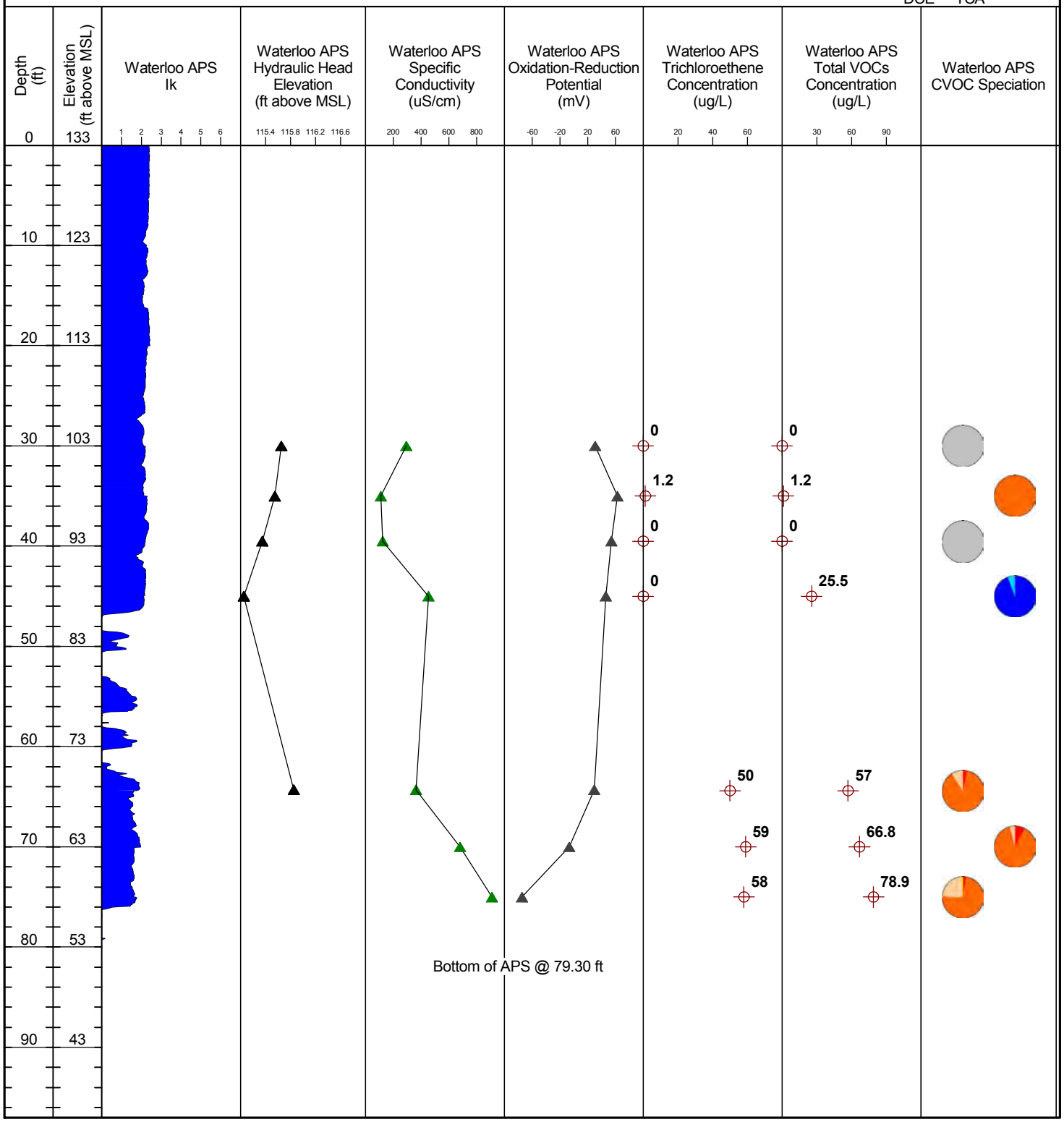
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/18/10
**DATE WATERLOO APS COMPLETED:** 11/19/10
**GROUND SURFACE ELEVATION:** 133.15 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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Telephone: (617) 646-7800
Fax: (617) 267-6447

# APS-119



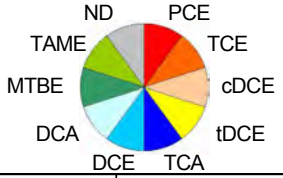
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

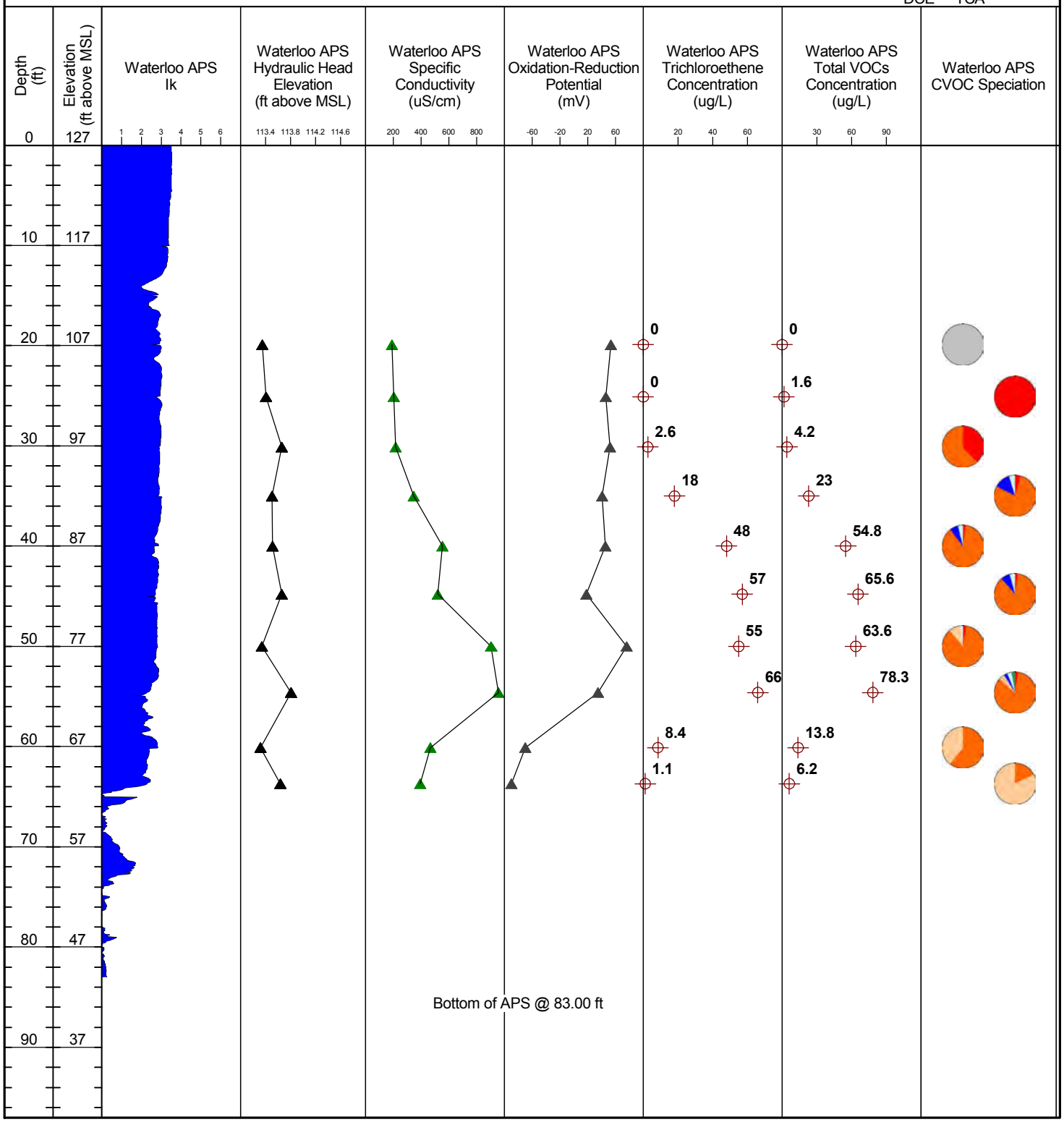
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/18/10
**DATE WATERLOO APS COMPLETED:** 11/18/10
**GROUND SURFACE ELEVATION:** 127.31 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-120

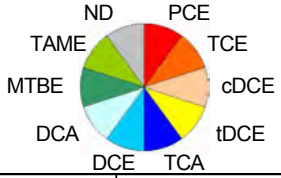


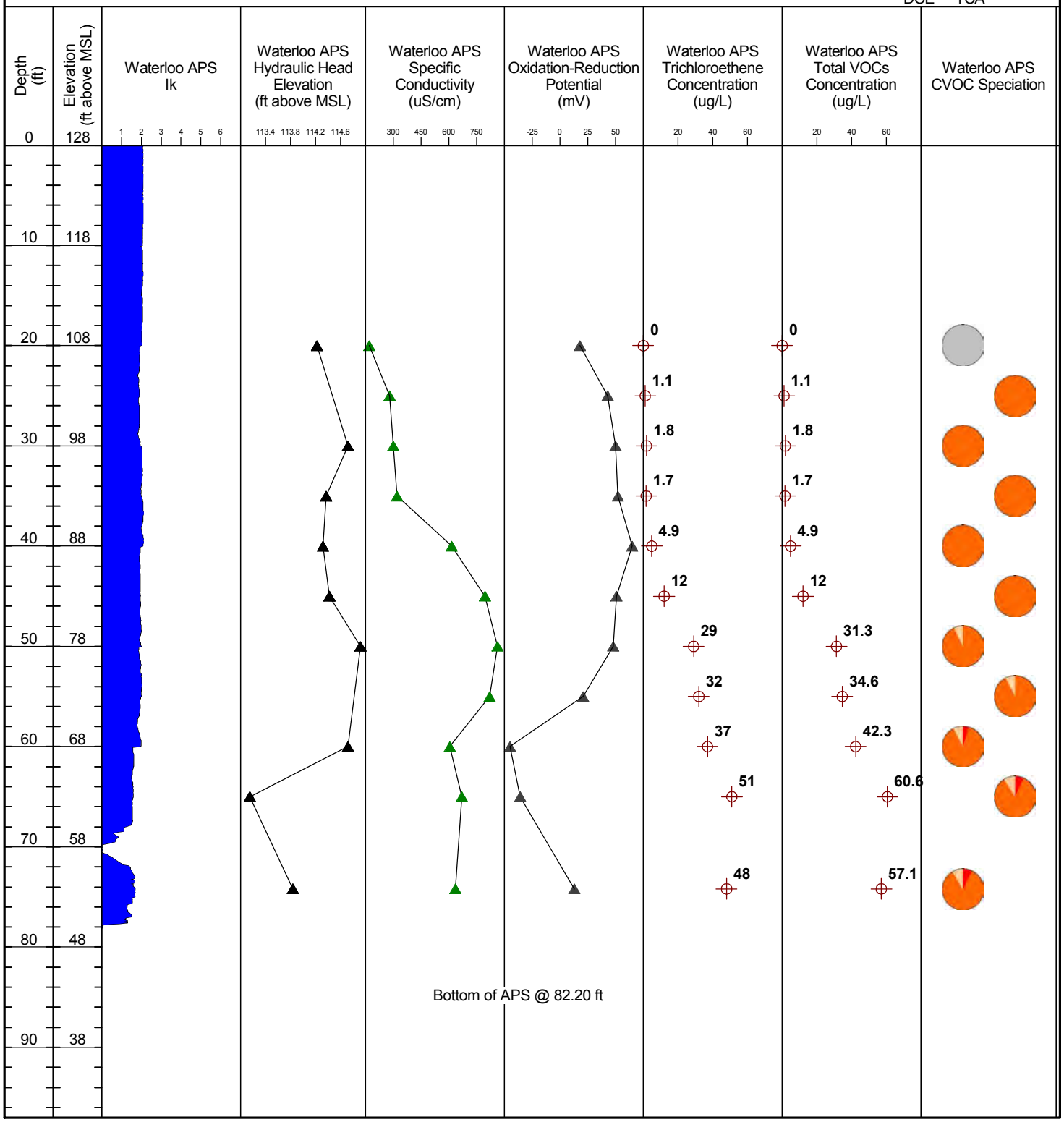
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/19/10
**DATE WATERLOO APS COMPLETED:** 11/22/10
**GROUND SURFACE ELEVATION:** 128.32 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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Fax: (617) 267-6447

# APS-121

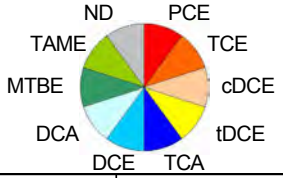


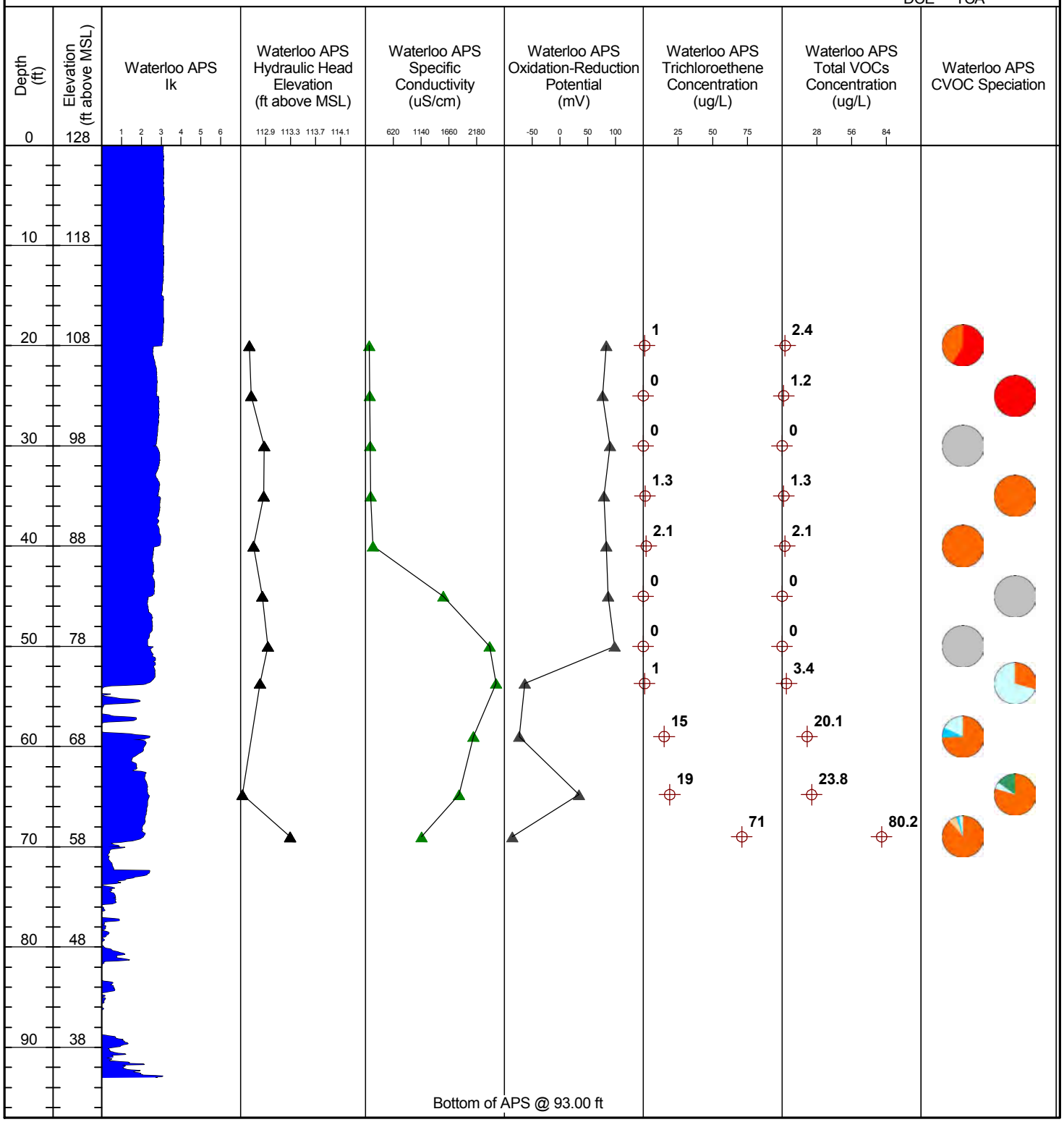
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/19/10
**DATE WATERLOO APS COMPLETED:** 11/22/10
**GROUND SURFACE ELEVATION:** 127.74 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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Fax: (617) 267-6447

# APS-122



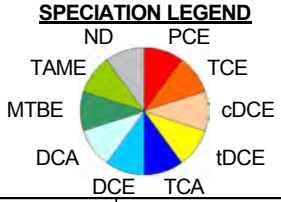
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

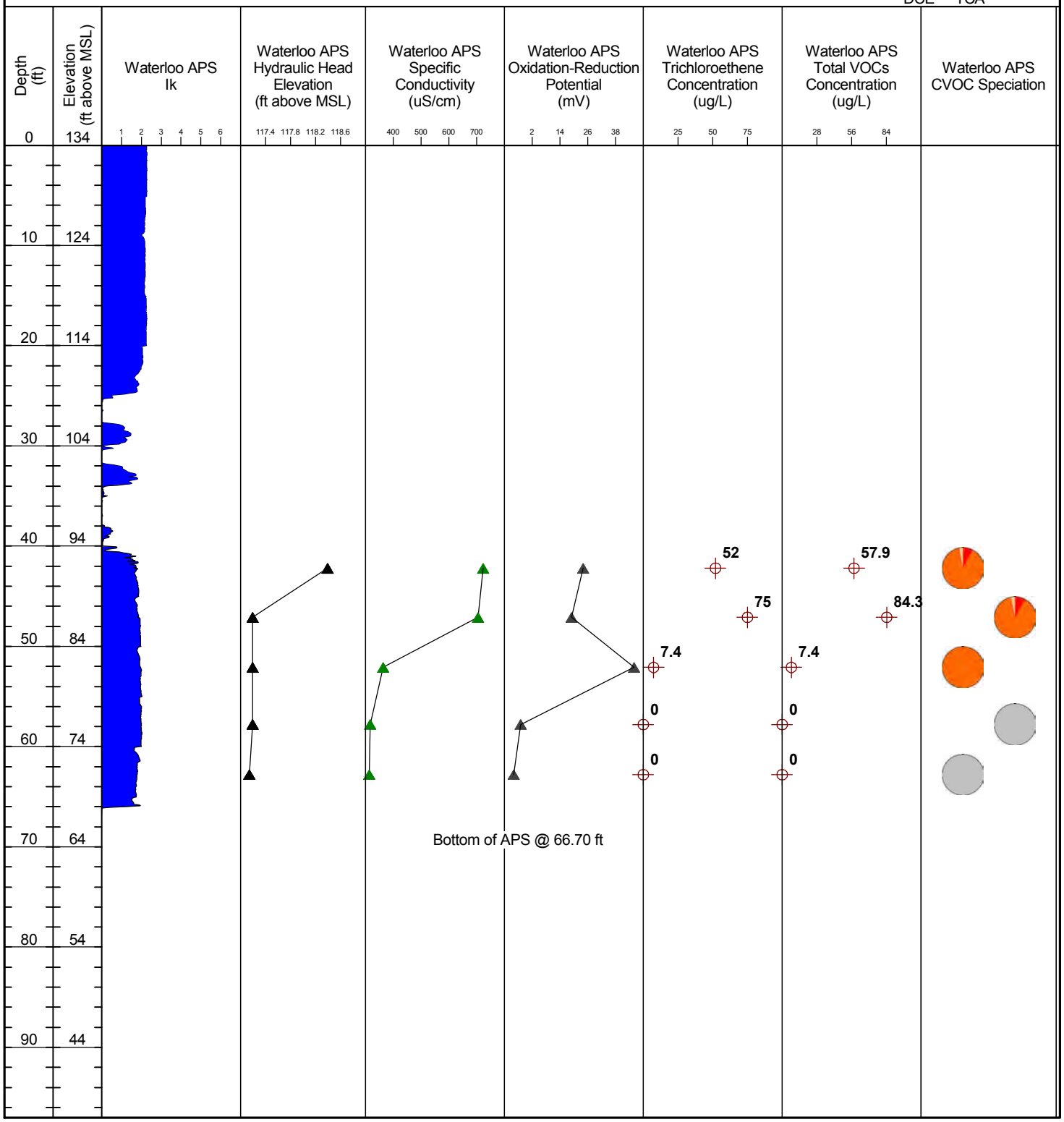
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/22/10
**DATE WATERLOO APS COMPLETED:** 11/22/10
**GROUND SURFACE ELEVATION:** 133.79 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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Fax: (617) 267-6447

# APS-123



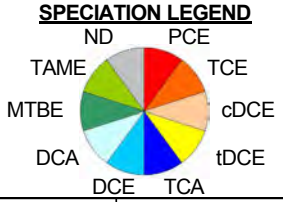
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

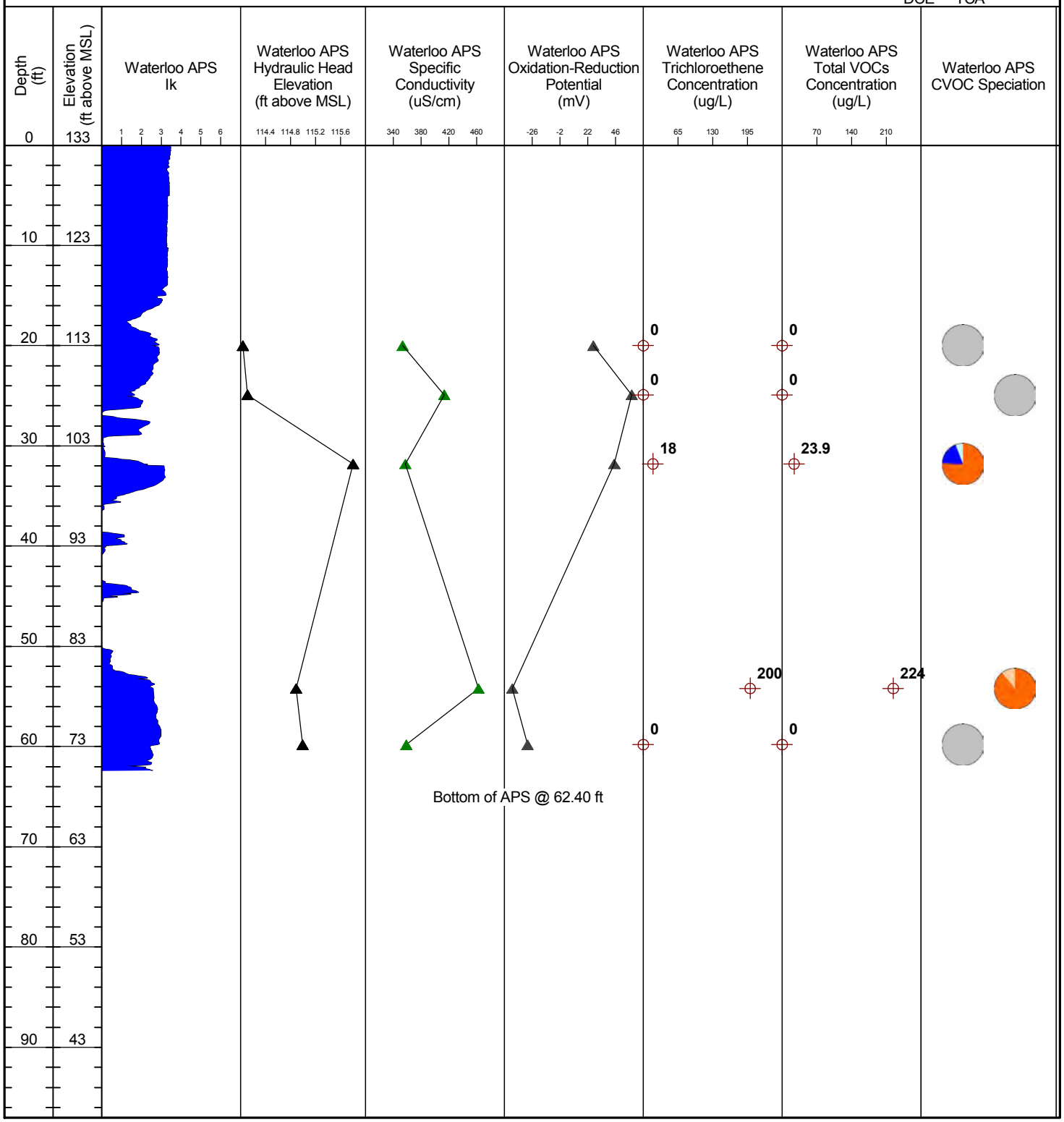
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/22/10
**DATE WATERLOO APS COMPLETED:** 11/22/10
**GROUND SURFACE ELEVATION:** 133.49 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-124



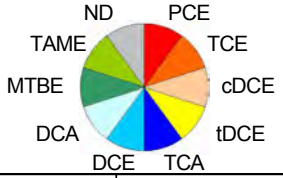
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

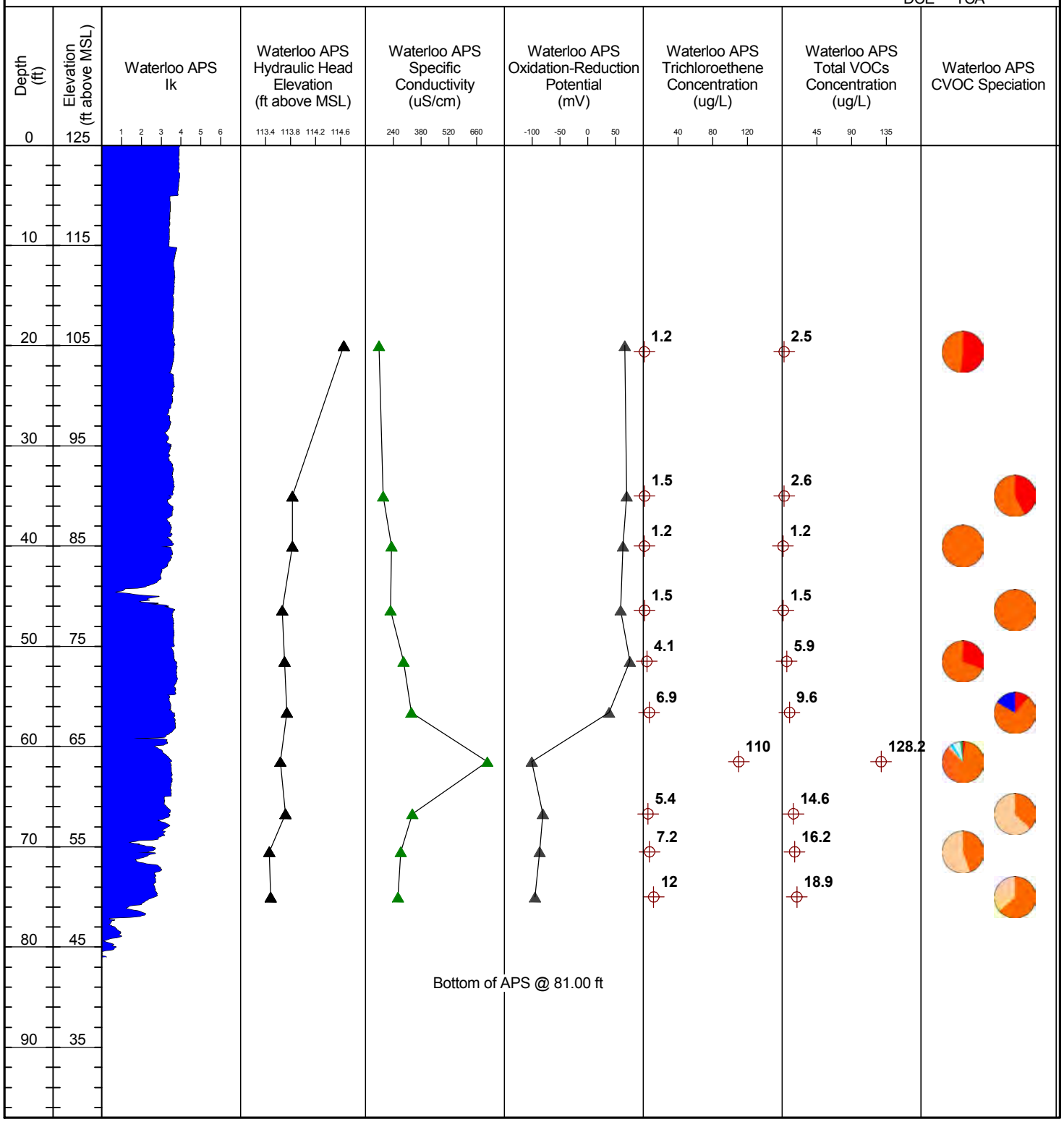
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/23/10
**DATE WATERLOO APS COMPLETED:** 11/23/10
**GROUND SURFACE ELEVATION:** 125 ft above MSL
**NOTES:** Elevation approximated from nearby APS locations

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-125

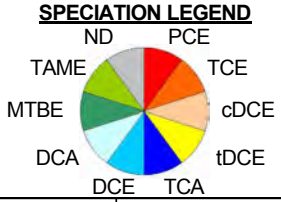


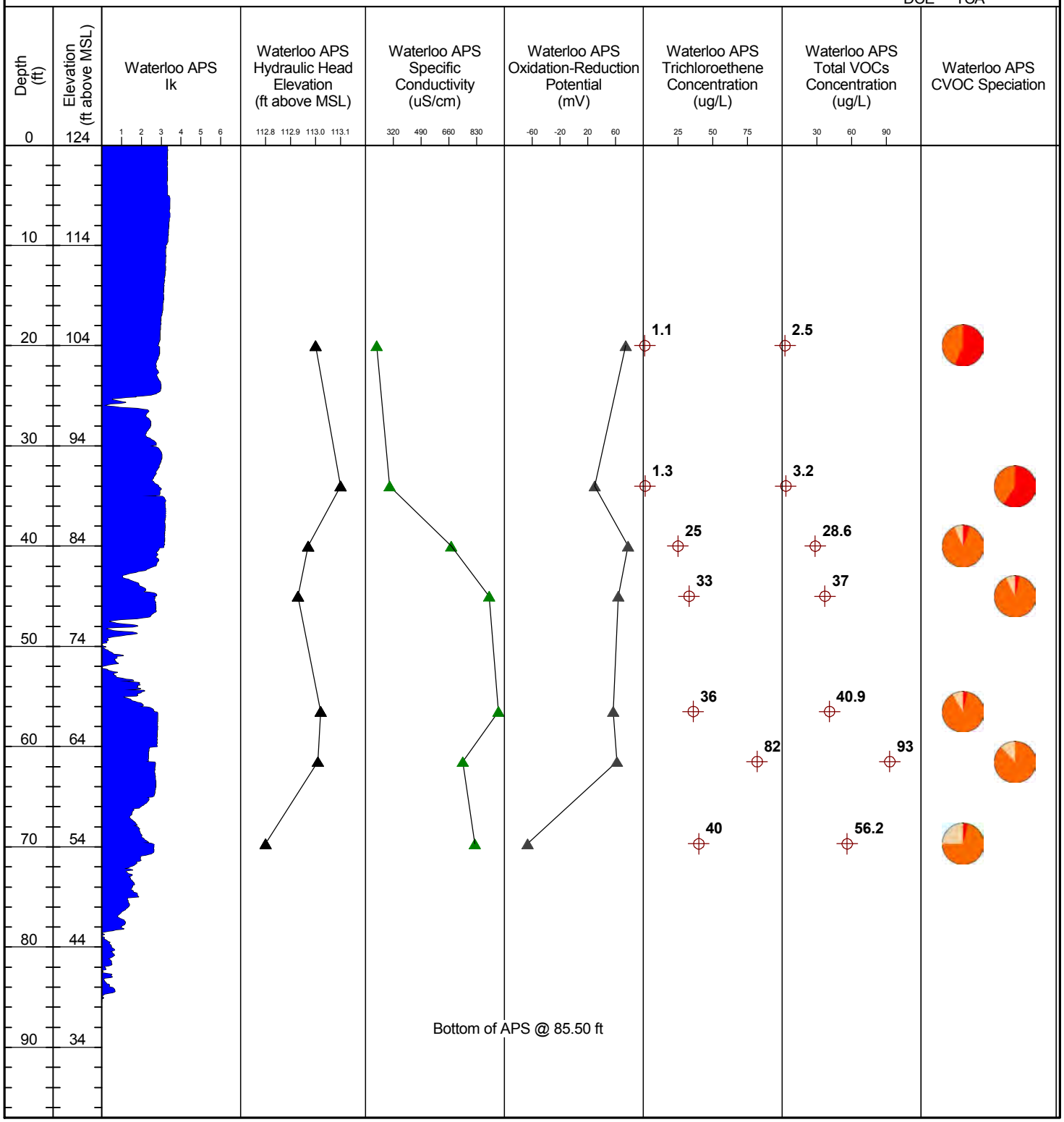
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/23/10
**DATE WATERLOO APS COMPLETED:** 11/23/10
**GROUND SURFACE ELEVATION:** 124 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-126



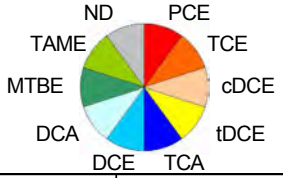
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

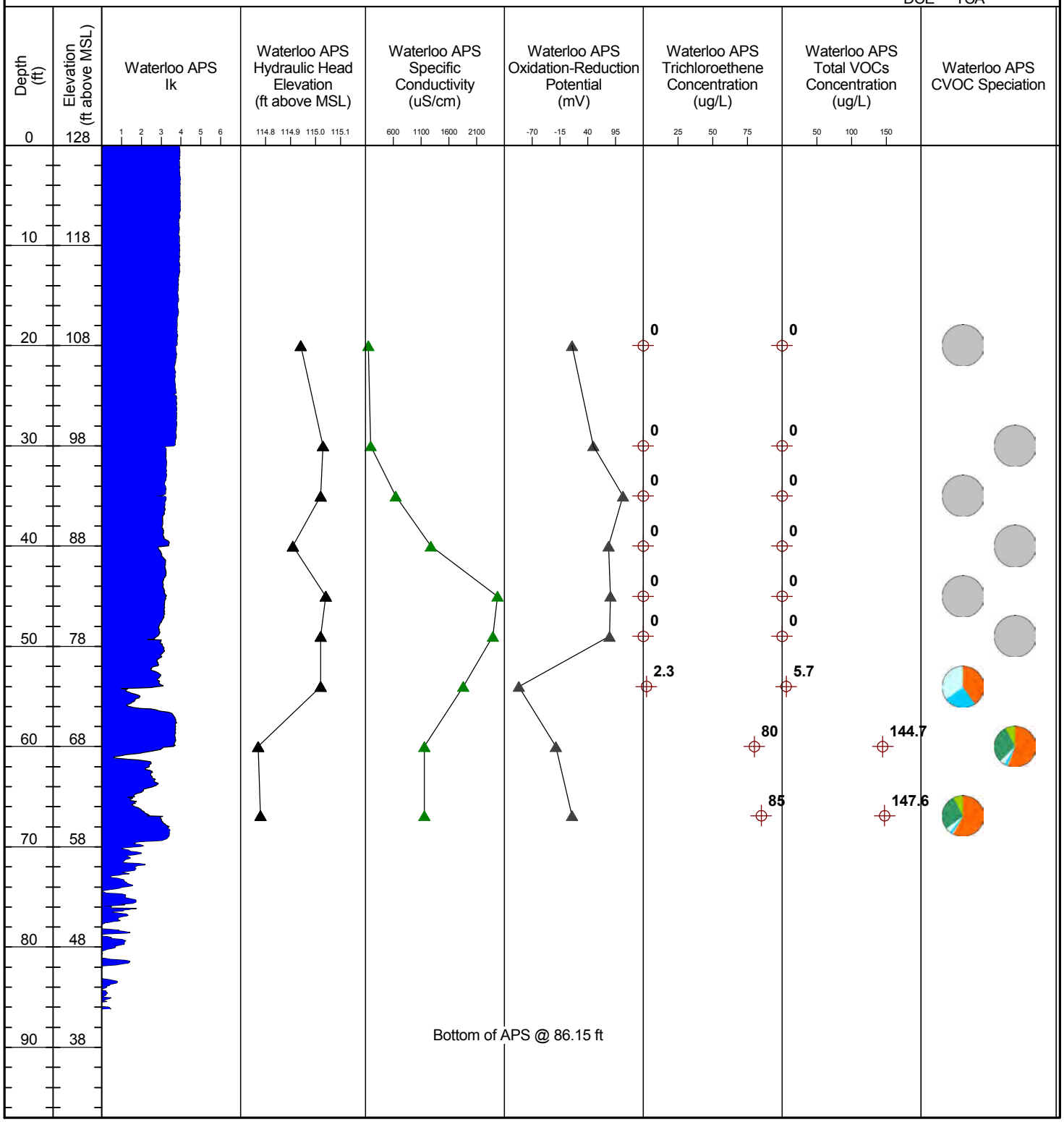
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/23/10
**DATE WATERLOO APS COMPLETED:** 11/24/10
**GROUND SURFACE ELEVATION:** 128.16 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-127



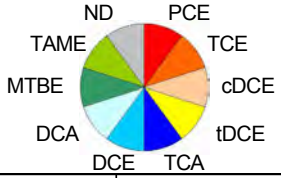
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

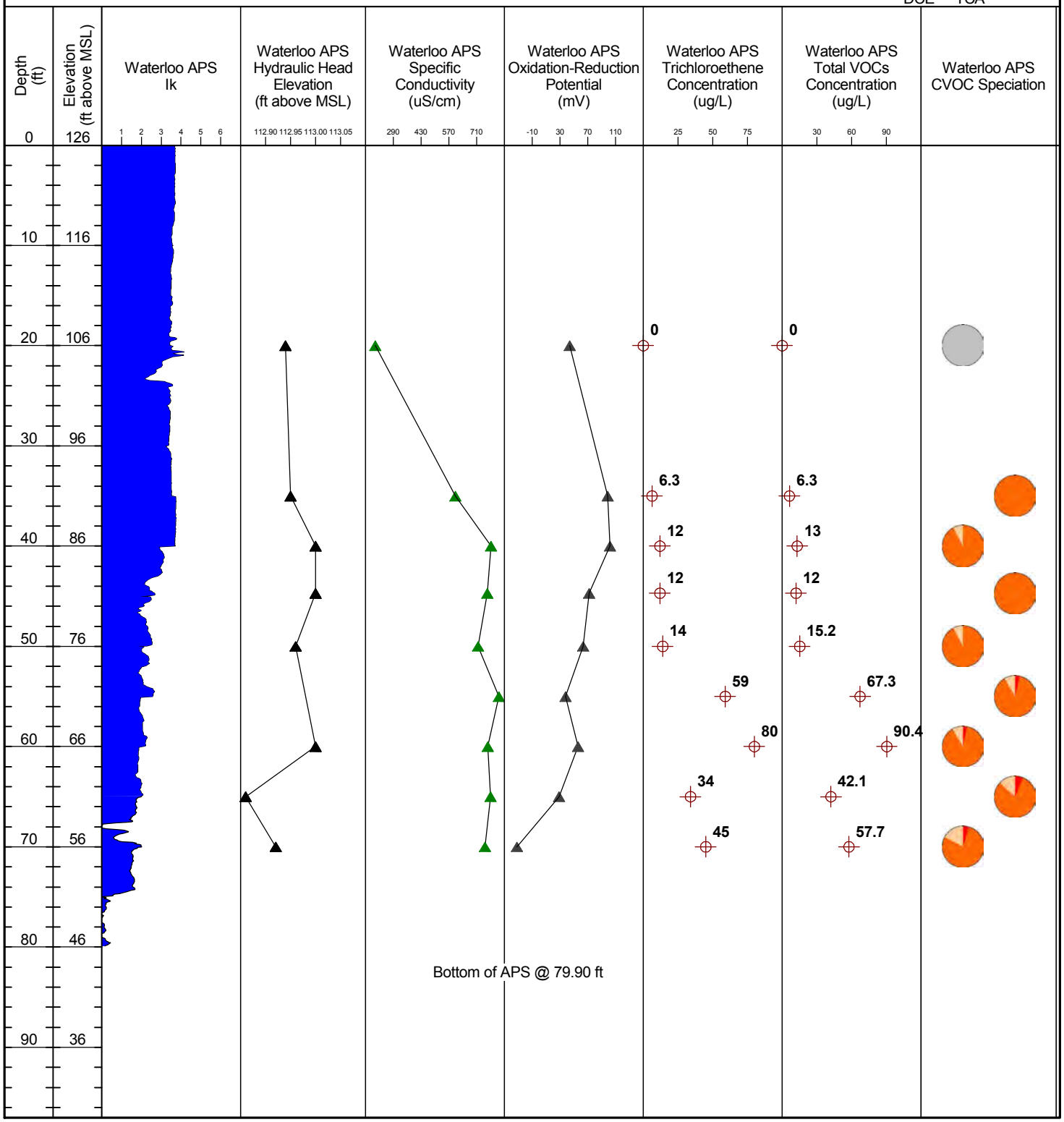
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 11/23/10
**DATE WATERLOO APS COMPLETED:** 11/24/10
**GROUND SURFACE ELEVATION:** 126 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-128



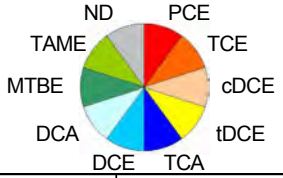
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

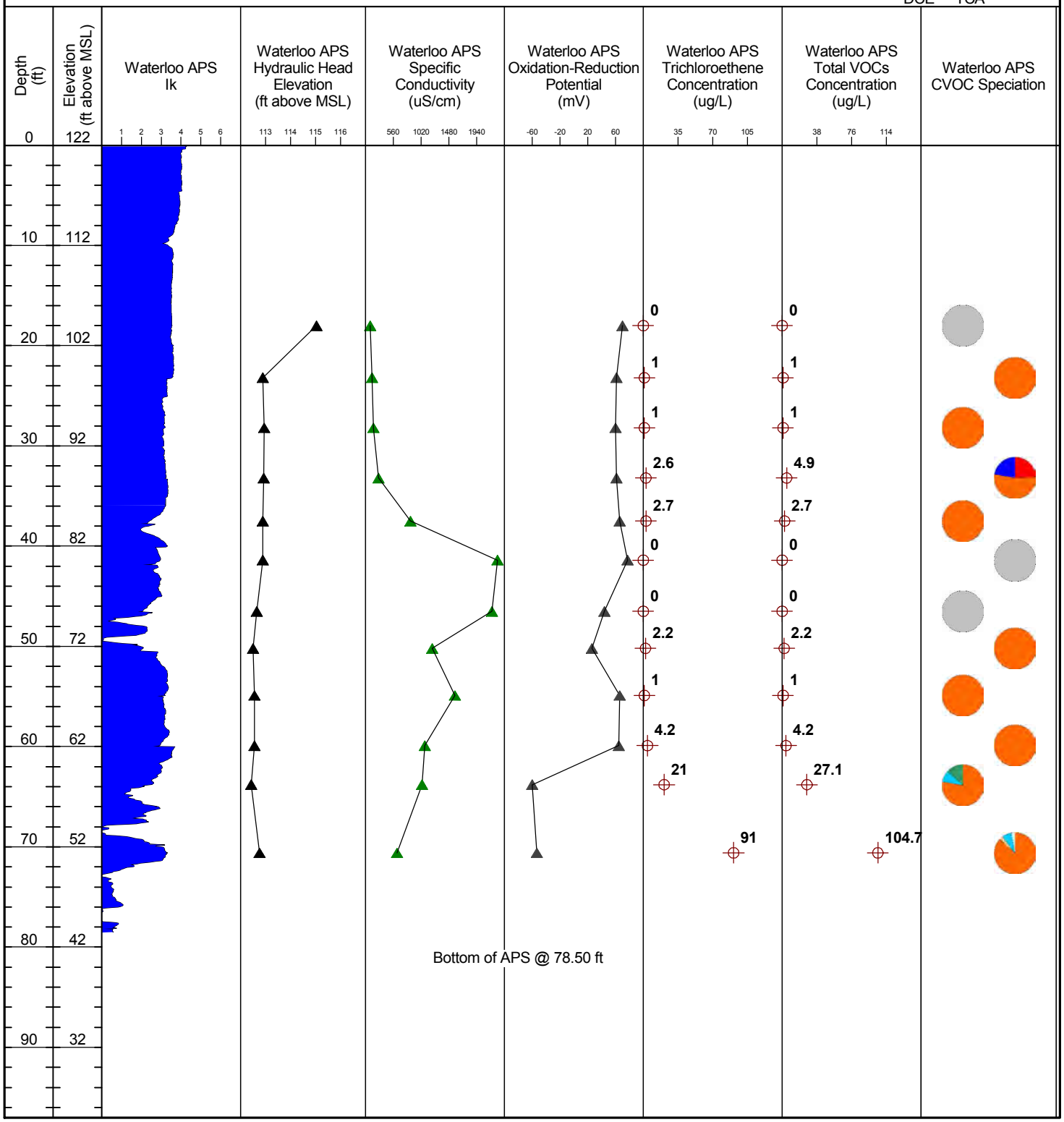
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 12/20/10
**DATE WATERLOO APS COMPLETED:** 12/21/10
**GROUND SURFACE ELEVATION:** 122 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-129



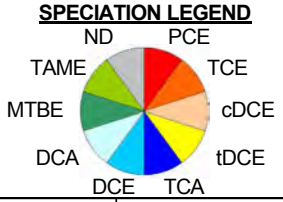
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

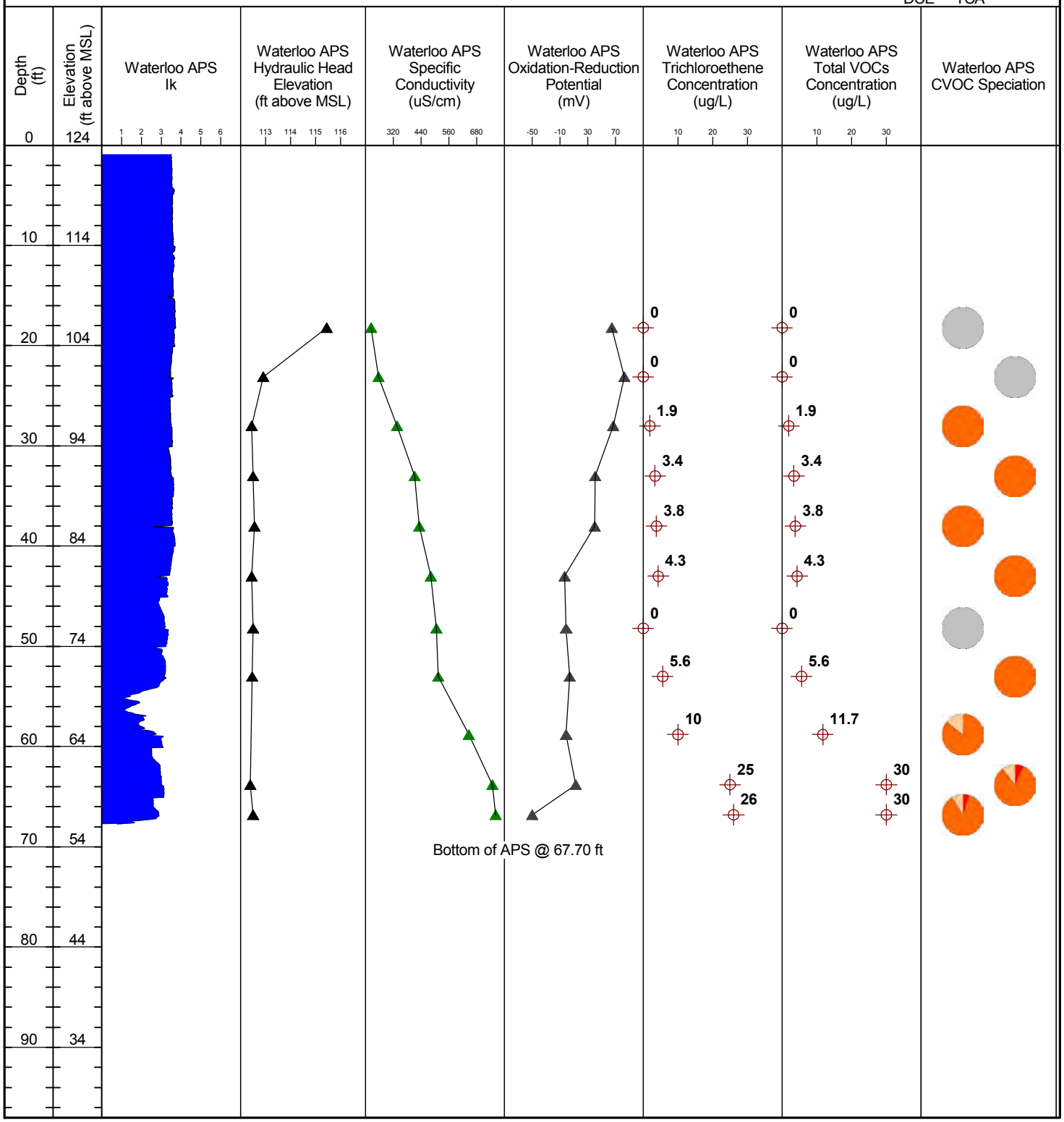
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 12/20/10
**DATE WATERLOO APS COMPLETED:** 12/21/10
**GROUND SURFACE ELEVATION:** 124 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-130



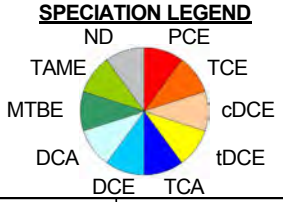
**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

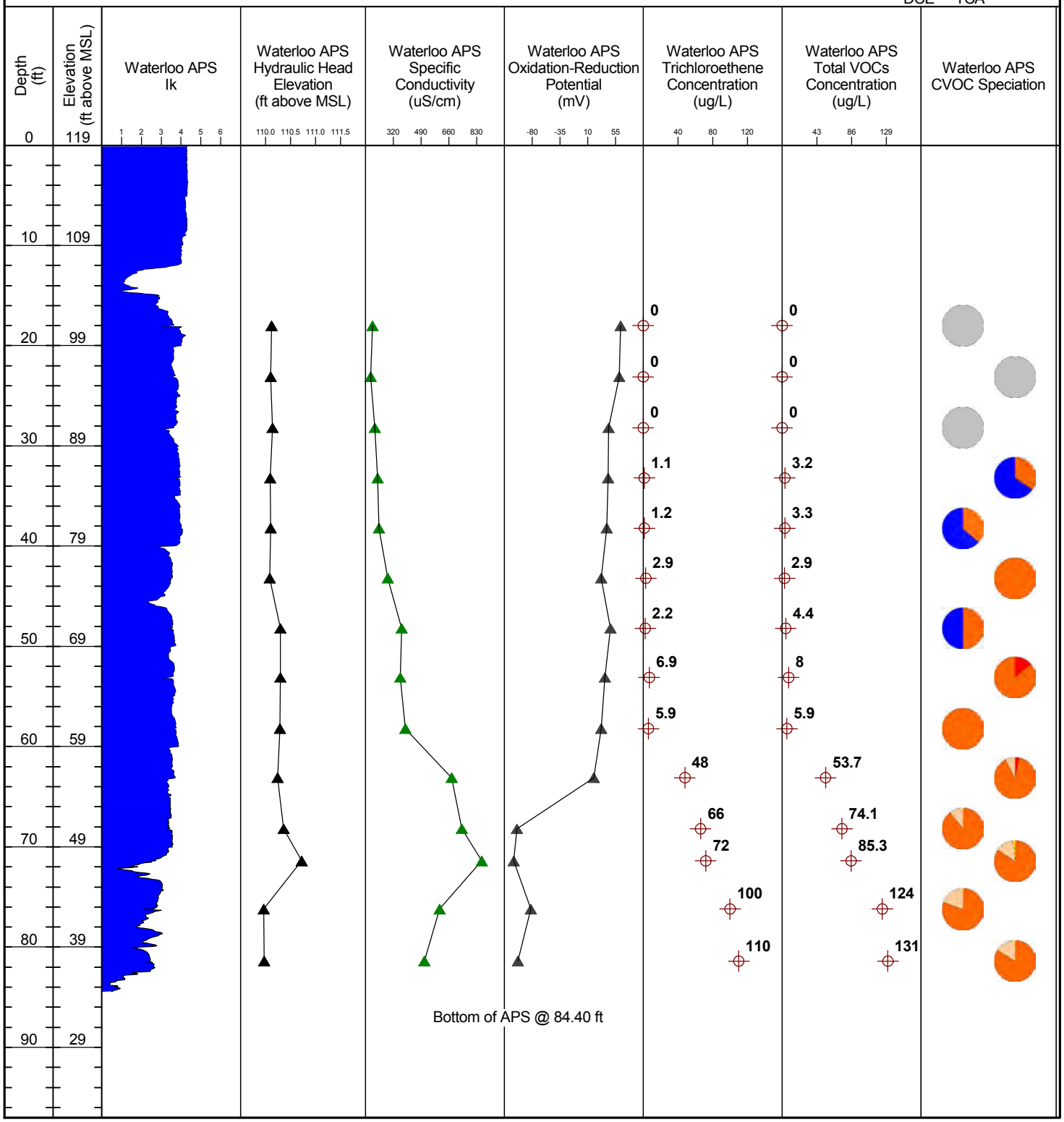
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 12/21/10
**DATE WATERLOO APS COMPLETED:** 12/22/10
**GROUND SURFACE ELEVATION:** 119 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-131



**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA
**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 12/21/10
**DATE WATERLOO APS COMPLETED:** 12/22/10
**GROUND SURFACE ELEVATION:** 123 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
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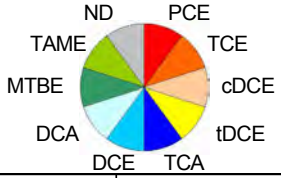
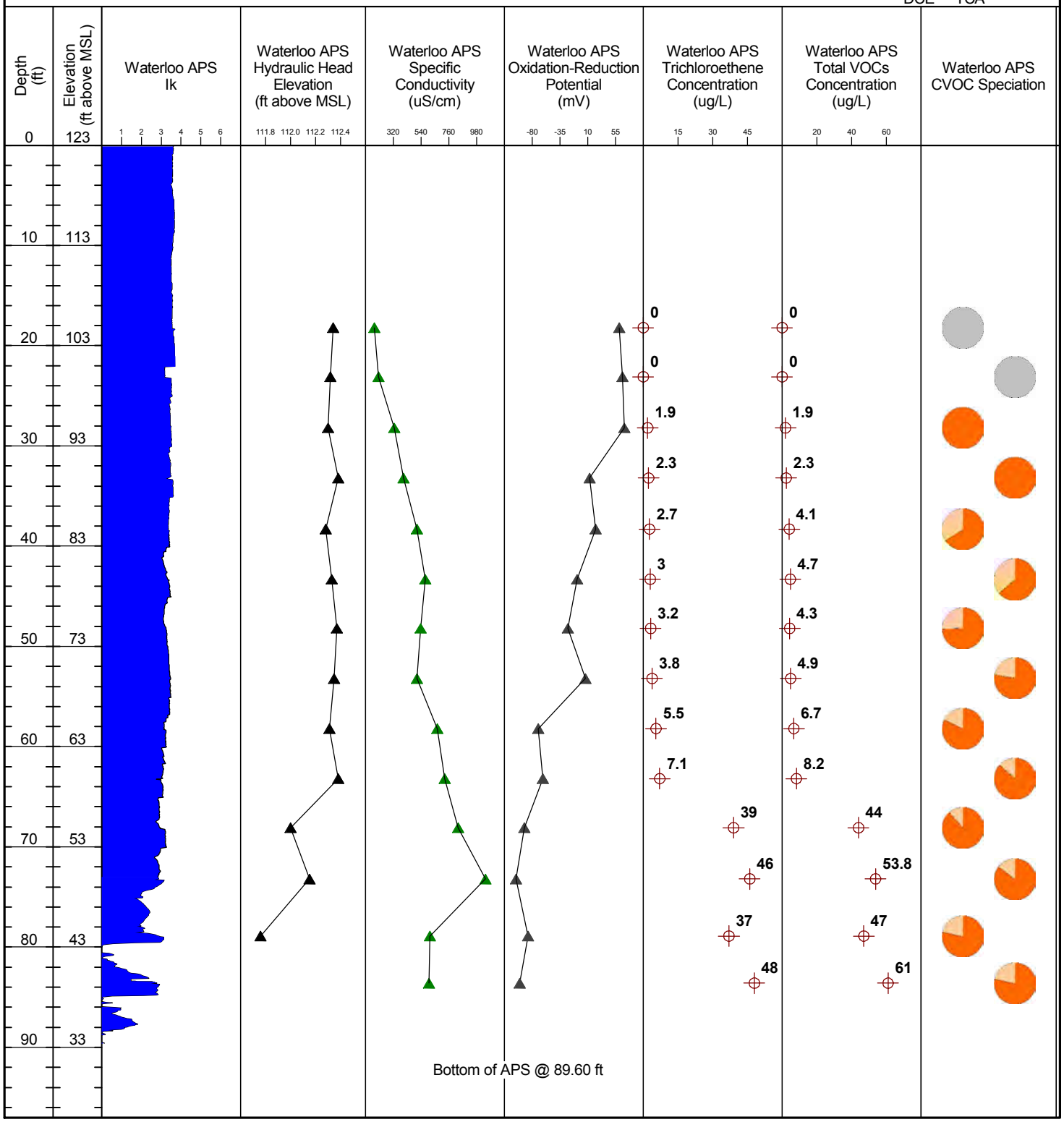
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-132



**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 12/22/10
**DATE WATERLOO APS COMPLETED:** 12/22/10
**GROUND SURFACE ELEVATION:** 125 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
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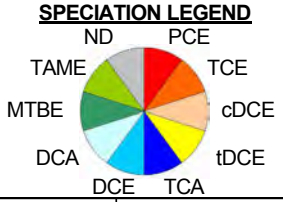
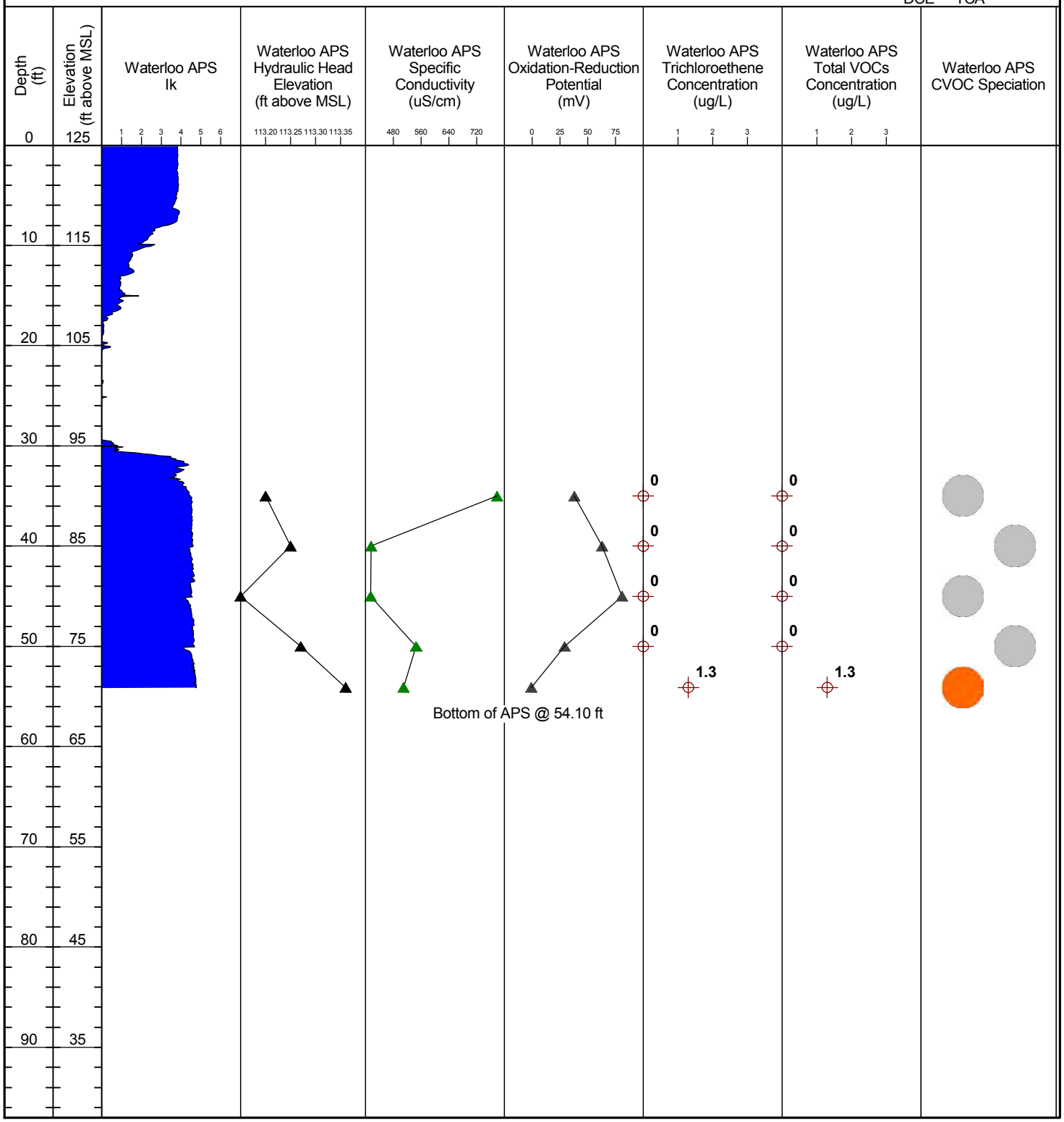
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**



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# APS-133



**Client:** Raytheon Company
**Project Name:** Former Raytheon Wayland Facility Investigation
**Project Number:** 0114119
**Project Location:** 430 Boston Post Road, Wayland, MA

**CONTRACTOR:** Stone Environmental, Inc.
**DATE MIP COMPLETED:** 12/22/10
**DATE WATERLOO APS COMPLETED:** 12/23/10
**GROUND SURFACE ELEVATION:** 124 ft above MSL
**NOTES:**

**ACRONYM LEGEND**

APS = Advanced Profiling System
MSL = Mean Sea Level
ND = Not Detected
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
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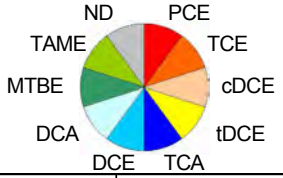
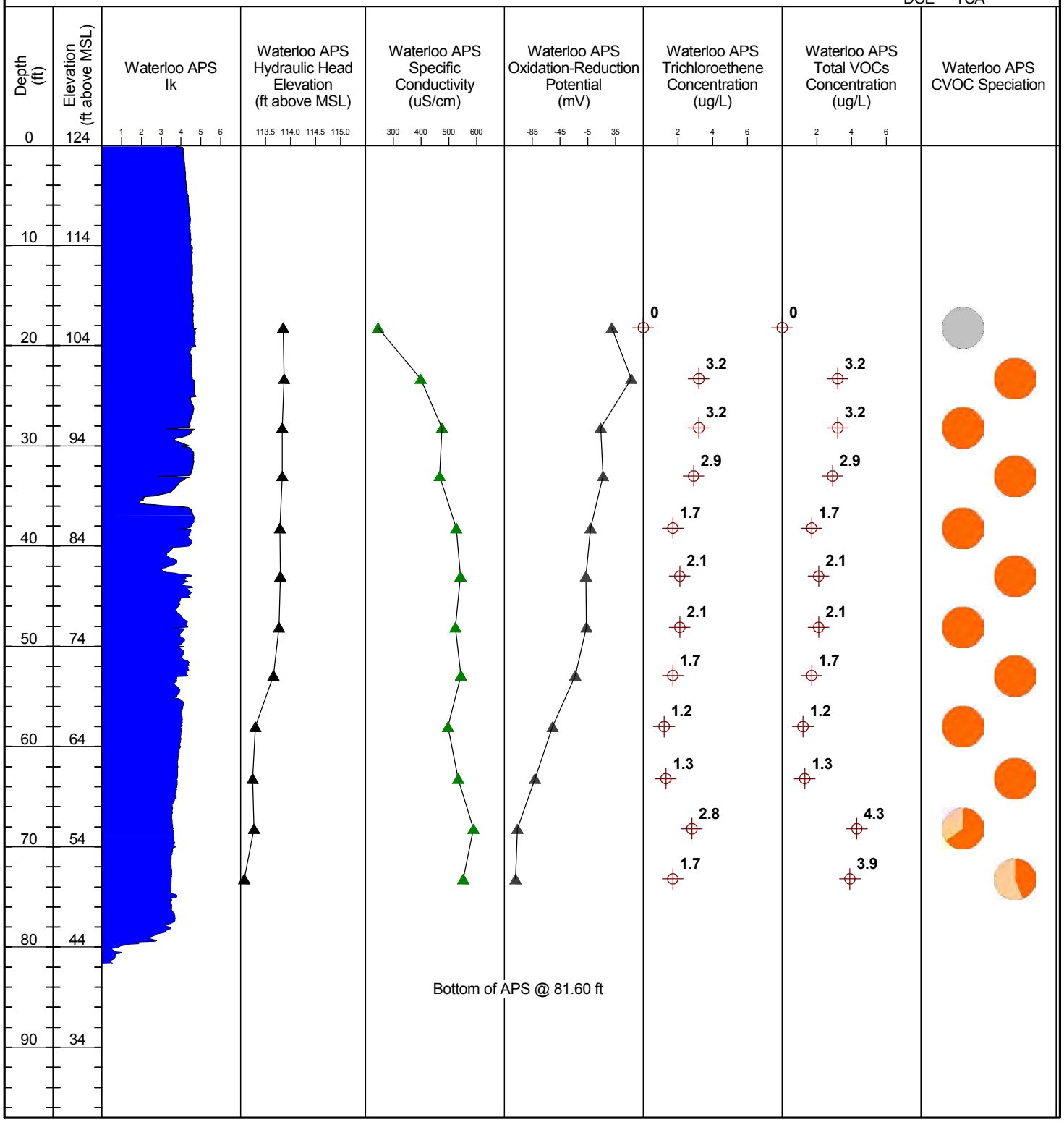
**SPECIATION LEGEND**



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# APS-134



**Client:** Raytheon Company

**Project Name:** Former Raytheon Wayland Facility Investigation

**Project Number:** 0114119

**Project Location:** 430 Boston Post Road, Wayland, MA

**CONTRACTOR:** Stone Environmental, Inc.

**DATE MIP COMPLETED:** 12/22/10

**DATE WATERLOO APS COMPLETED:** 12/23/10

**GROUND SURFACE ELEVATION:** 127.75 ft above MSL

**NOTES:** Elevation approximated from nearby APS-113

**ACRONYM LEGEND**

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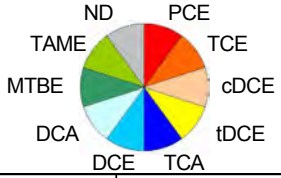
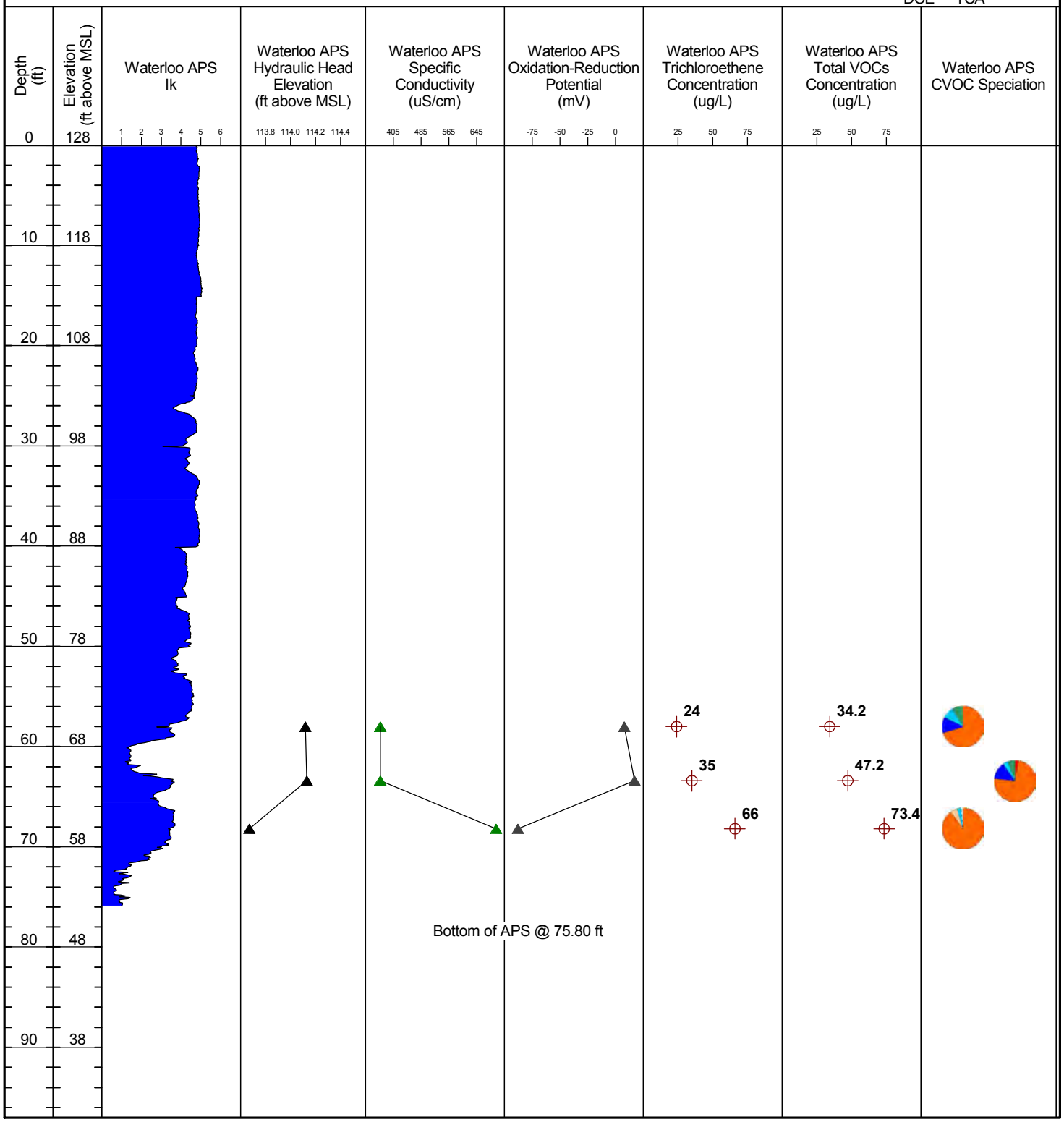
NS = Not Sampled
VOC = Volatile Organic Compound
mV = Millivolts
uS/cm = MicroSiemens per Centimenter
ug/L = Micrograms per Liter

**SPECIATION LEGEND**