

**Environmental  
Resources  
Management**

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

26 March 2009  
Reference: 0095922

Mr. Robert Schelmerdeine  
Wayland Meadows Development Inc.  
2 Washington Street  
Foxboro, MA 02035



Re: Transmittal of Groundwater Analytical Data  
Former Raytheon Facility  
430 Boston Post Road, Wayland, Massachusetts

Dear Mr. Schelmerdeine:

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) is submitting the results of groundwater sample analyses from the Former Raytheon Facility located at 430 Boston Post Road in Wayland, Massachusetts (Site). The results are submitted pursuant to 310 CMR 40.1403(10) of the Massachusetts Contingency Plan (MCP).

ERM collected groundwater samples from two wells on portions of the Site within the boundaries of your property on 18 and 19 February 2009. The samples were analyzed for volatile organic compounds, total organic carbon, total phosphorus, dissolved iron and dissolved manganese, sulfate, nitrogen as nitrate, and dissolved ethane, ethene, and methane gases. Sample analyses were conducted by Alpha Analytical, Inc. of Westborough, Massachusetts and Microseeps, Inc. of Pittsburgh, Pennsylvania. This analytical data will be provided to the Massachusetts Department of Environmental Protection in the next required MCP submittal.

Raytheon has implemented the Public Involvement Process in accordance with MCP 310 CMR 40.1405. Documents pertaining to the Site can be found at the Board of Health, the Wayland Public Library Public Involvement Plan files, or at [www.ermne.com](http://www.ermne.com) (username = raytheon, password = wayland).

Mr. Schelmerdeine  
Reference: 0095922  
26 March 2009  
Page 2

Environmental  
Resources  
Management

If you have any questions or comments, please contact the undersigned at (617) 646-7800 or Louis Burkhardt, Raytheon Company, at (978) 436-8238.

Sincerely,



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



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

enclosures: BWSC-123 - Notice of Environmental Sampling

cc: Louis Burkhardt, Raytheon Company  
Ben Gould, CMG Environmental  
PIP Repositories



### NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

**BWSC 123**

This Notice is Related to  
Release Tracking Number

3

22408

**A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):**

1. Street Address: 430 Boston Post Road  
City/Town: Wayland Zip Code: 01778

**B. This notice is being provided to the following party:**

1. Name: Wayland Meadows Development Inc.  
2. Street Address: 2 Washington Street  
City/Town: Foxboro Zip Code: 02035

**C. This notice is being given to inform its recipient (the party listed in Section B):**

- 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

**D. Location of the property where the environmental sampling will be/has been conducted:**

1. Street Address: 430 Boston Post Road  
City/Town: Wayland Zip Code: 01778

2. MCP phase of work during which the sampling will be/has been conducted:

- |   |   |
|---|---|
| <input type="checkbox"/> Immediate Response Action              | <input type="checkbox"/> Phase III Feasibility Evaluation                   |
| <input type="checkbox"/> Release Abatement Measure              | <input type="checkbox"/> Phase IV Remedy Implementation Plan                |
| <input type="checkbox"/> Utility-related Abatement Measure      | <input checked="" type="checkbox"/> Phase V/Remedy Operation Status         |
| <input type="checkbox"/> Phase I Initial Site Investigation     | <input type="checkbox"/> Post-Class C Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> Other _____  |
- (specify)

3. Description of property where sampling will be/has been conducted:

- residential     commercial     industrial     school/playground     Other \_\_\_\_\_
- (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Collection of groundwater samples from existing monitoring wells.

**E. Contact information related to the party providing this notice:**

Contact Name: Louis J. Burkhardt  
Street Address: 880 Technology Park Drive, MS 2-2124-01  
City/Town: Billerica Zip Code: 01821  
Telephone: (978) 436-8238 Email: louis\_j\_burkhardt@raytheon.com

## **NOTICE OF ENVIRONMENTAL SAMPLING**

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

### MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

### THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the “disposal site”.)

### PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

**Section C** on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

**Section D** on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

### FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/dep/cleanup/oview.htm>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://mass.gov/dep/about/region/schedule.htm> if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.



Client Name: ERM  
Contact: Jason Flattery  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116

Page: Page 1 of 3  
Lab Proj #: P0902232  
Report Date: 03/03/09  
Client Proj Name: Wayland  
Client Proj #: Wayland

### Laboratory Results

Total pages in data package: 4

<u>Lab Sample #</u>	<u>Client Sample ID</u>
P0902232-01	MW-264M-20090218-01
P0902232-02	DEP-19M-20090219-01

Microseeps test results meet all the requirements of the NELAC standards or provide reasons and/or justification if they do not.

**Approved By:** Rachel Whitby **Date:** 3/3/09

**Project Manager:** Rachel Whitby

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results are reported on a wet weight basis.

*As a valued client we would appreciate your comments on our service.  
Please call customer service at (412)826-5245 or email customerservice@microseeps.com.*

**Case Narrative:**

Client Name: ERM  
 Contact: Jason Flattery  
 Address: 399 Boylston Street  
 6th Floor  
 Boston, MA 02116

Page: Page 2 of 3  
 Lab Proj #: P0902232  
 Report Date: 03/03/09  
 Client Proj Name: Wayland  
 Client Proj #: Wayland

<u>Sample Description</u>	<u>Matrix</u>	<u>Lab Sample #</u>	<u>Sampled Date/Time</u>	<u>Received</u>		
MW-264M-20090218-01	Water	P0902232-01	18 Feb. 09 8:15	23 Feb. 09 9:31		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<u>RiskAnalysis</u>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/2/09	rw
N Ethene	0.210	0.025	ug/L	AM20GAX	3/2/09	rw
N Methane	7.700	0.100	ug/L	AM20GAX	3/2/09	rw



Client Name: ERM  
Contact: Jason Flattery  
Address: 399 Boylston Street  
6th Floor  
Boston, MA 02116

Page: Page 3 of 3  
Lab Proj #: P0902232  
Report Date: 03/03/09  
Client Proj Name: Wayland  
Client Proj #: Wayland

<u>Sample Description</u>	<u>Matrix</u>	<u>Lab Sample #</u>	<u>Sampled Date/Time</u>	<u>Received</u>
DEP-19M-20090219-01	Water	P0902232-02	19 Feb. 09 14:30	23 Feb. 09 9:31

<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<u>RiskAnalysis</u>						
N Ethane	0.029	0.025	ug/L	AM20GAX	3/2/09	rw
N Ethene	0.130	0.025	ug/L	AM20GAX	3/2/09	rw
N Methane	2.100	0.100	ug/L	AM20GAX	3/2/09	rw









## ANALYTICAL REPORT

Lab Number:	L0902334
Client:	ERM Consulting & Engineering, Inc. 399 Boylston Street 6th Floor Boston, MA 02116
ATTN:	Bahaar Frost
Project Name:	RAYTHEON WAYLAND
Project Number:	0095922
Report Date:	02/26/09

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.

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



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>
L0902334-01	MW-264M-20090218-01	WAYLAND, MA

Project Name: RAYTHEON WAYLAND

Lab Number: L0902334

Project Number: 0095922

Report Date: 02/26/09

### 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, B, C & D is required for "Presumptive Certainty" status		
A	Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set?	YES
B	Were all QA/QC procedures required for the specified analytical methods(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	YES
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	YES
D	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?	N/A

A response to questions E and F is required for "Presumptive Certainty" status		
E	Were all QC performance standards and recommendations for the specified method(s) achieved?	NO
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	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  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

### 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.

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.

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.

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#### MCP Related Narratives

##### Sample Receipt

The sample was Field Filtered for Dissolved Metals only.

##### Volatile Organics

In reference to question E:

The WG353601-1/-2 LCS/LCSD recoveries associated with L0902334-01 are below the acceptance criteria for Dichlorodifluoromethane (68%/64%); however, it has been identified as a "difficult" analyte. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

### Case Narrative (continued)

In reference to question F:

The sample was analyzed for a subset of MCP compounds per the Chain of Custody.

Metals

In reference to question F:

The sample was analyzed for a subset of MCP compounds per the Chain of Custody.

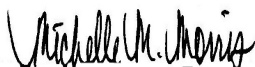
Non-MCP Related Narratives

TOC

The sample was preserved in-house on February 19, 2009.

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:



Title: Technical Director/Representative

Date: 02/26/09

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0902334**Project Number:** 0095922**Report Date:** 02/26/09**SAMPLE RESULTS**

**Lab ID:** L0902334-01  
**Client ID:** MW-264M-20090218-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water  
**Analytical Method:** 60,8260B  
**Analytical Date:** 02/20/09 16:08  
**Analyst:** PD

**Date Collected:** 02/18/09 08:15  
**Date Received:** 02/18/09  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	ND		ug/l	0.75	1
Chloroform	ND		ug/l	0.75	1
Carbon tetrachloride	ND		ug/l	0.50	1
1,2-Dichloropropane	ND		ug/l	1.8	1
Dibromochloromethane	ND		ug/l	0.50	1
1,1,2-Trichloroethane	ND		ug/l	0.75	1
Tetrachloroethene	9.0		ug/l	0.50	1
Chlorobenzene	ND		ug/l	0.50	1
1,2-Dichloroethane	ND		ug/l	0.50	1
1,1,1-Trichloroethane	ND		ug/l	0.50	1
Bromodichloromethane	ND		ug/l	0.50	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	0.50	1
Chloromethane	ND		ug/l	2.5	1
Vinyl chloride	2.2		ug/l	1.0	1
Chloroethane	ND		ug/l	1.0	1
1,1-Dichloroethene	ND		ug/l	0.50	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	1
Trichloroethene	41		ug/l	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.5	1
1,3-Dichlorobenzene	ND		ug/l	2.5	1
1,4-Dichlorobenzene	ND		ug/l	2.5	1
cis-1,2-Dichloroethene	40		ug/l	0.50	1
Dichlorodifluoromethane	ND		ug/l	5.0	1
1,2-Dibromoethane	ND		ug/l	2.0	1
1,3-Dichloropropane	ND		ug/l	2.5	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	1



**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0902334**Project Number:** 0095922**Report Date:** 02/26/09**SAMPLE RESULTS**

Lab ID: L0902334-01  
 Client ID: MW-264M-20090218-01  
 Sample Location: WAYLAND, MA

Date Collected: 02/18/09 08:15  
 Date Received: 02/18/09  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>					
o-Chlorotoluene	ND		ug/l	2.5	1
p-Chlorotoluene	ND		ug/l	2.5	1
Hexachlorobutadiene	ND		ug/l	0.60	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	95		70-130

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 60,8260B  
Analytical Date: 02/20/09 09:05  
Analyst: PD

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG353601-3				
Methylene chloride	ND		ug/l	5.0
1,1-Dichloroethane	ND		ug/l	0.75
Chloroform	ND		ug/l	0.75
Carbon tetrachloride	ND		ug/l	0.50
1,2-Dichloropropane	ND		ug/l	1.8
Dibromochloromethane	ND		ug/l	0.50
1,1,2-Trichloroethane	ND		ug/l	0.75
Tetrachloroethene	ND		ug/l	0.50
Chlorobenzene	ND		ug/l	0.50
Trichlorofluoromethane	ND		ug/l	2.5
1,2-Dichloroethane	ND		ug/l	0.50
1,1,1-Trichloroethane	ND		ug/l	0.50
Bromodichloromethane	ND		ug/l	0.50
trans-1,3-Dichloropropene	ND		ug/l	0.50
cis-1,3-Dichloropropene	ND		ug/l	0.50
1,1-Dichloropropene	ND		ug/l	2.5
Bromoform	ND		ug/l	2.0
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50
Benzene	ND		ug/l	0.50
Toluene	ND		ug/l	0.75
Ethylbenzene	ND		ug/l	0.50
Chloromethane	ND		ug/l	2.5
Bromomethane	ND		ug/l	1.0
Vinyl chloride	ND		ug/l	1.0
Chloroethane	ND		ug/l	1.0
1,1-Dichloroethene	ND		ug/l	0.50
trans-1,2-Dichloroethene	ND		ug/l	0.75
Trichloroethene	ND		ug/l	0.50
1,2-Dichlorobenzene	ND		ug/l	2.5
1,3-Dichlorobenzene	ND		ug/l	2.5
1,4-Dichlorobenzene	ND		ug/l	2.5

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 60,8260B  
Analytical Date: 02/20/09 09:05  
Analyst: PD

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG353601-3				
Methyl tert butyl ether	ND		ug/l	1.0
p/m-Xylene	ND		ug/l	1.0
o-Xylene	ND		ug/l	1.0
cis-1,2-Dichloroethene	ND		ug/l	0.50
Dibromomethane	ND		ug/l	5.0
1,2,3-Trichloropropane	ND		ug/l	5.0
Styrene	ND		ug/l	1.0
Dichlorodifluoromethane	ND		ug/l	5.0
Acetone	ND		ug/l	5.0
Carbon disulfide	ND		ug/l	5.0
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	2.5
Tetrahydrofuran	ND		ug/l	10
2,2-Dichloropropane	ND		ug/l	2.5
1,2-Dibromoethane	ND		ug/l	2.0
1,3-Dichloropropane	ND		ug/l	2.5
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50
Bromobenzene	ND		ug/l	2.5
n-Butylbenzene	ND		ug/l	0.50
sec-Butylbenzene	ND		ug/l	0.50
tert-Butylbenzene	ND		ug/l	2.5
o-Chlorotoluene	ND		ug/l	2.5
p-Chlorotoluene	ND		ug/l	2.5
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5
Hexachlorobutadiene	ND		ug/l	0.60
Isopropylbenzene	ND		ug/l	0.50
p-Isopropyltoluene	ND		ug/l	0.50
Naphthalene	ND		ug/l	2.5
n-Propylbenzene	ND		ug/l	0.50

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 60,8260B  
 Analytical Date: 02/20/09 09:05  
 Analyst: PD

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG353601-3				
1,2,3-Trichlorobenzene	ND		ug/l	2.5
1,2,4-Trichlorobenzene	ND		ug/l	2.5
1,3,5-Trimethylbenzene	ND		ug/l	2.5
1,2,4-Trimethylbenzene	ND		ug/l	2.5
Ethyl ether	ND		ug/l	2.5
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	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0902334

**Project Number:** 0095922

**Report Date:** 02/26/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG353601-1 WG353601-2					
Methylene chloride	98	95	70-130	3	25
1,1-Dichloroethane	93	89	70-130	4	25
Chloroform	99	95	70-130	4	25
Carbon tetrachloride	102	100	70-130	2	25
1,2-Dichloropropane	101	99	70-130	2	25
Dibromochloromethane	99	101	70-130	2	25
1,1,2-Trichloroethane	100	100	70-130	0	25
Tetrachloroethene	109	106	70-130	3	25
Chlorobenzene	108	108	70-130	0	25
Trichlorofluoromethane	104	99	70-130	5	25
1,2-Dichloroethane	92	88	70-130	4	25
1,1,1-Trichloroethane	100	97	70-130	3	25
Bromodichloromethane	108	104	70-130	4	25
trans-1,3-Dichloropropene	96	98	70-130	2	25
cis-1,3-Dichloropropene	90	89	70-130	1	25
1,1-Dichloropropene	97	94	70-130	3	25
Bromoform	102	105	70-130	3	50
1,1,2,2-Tetrachloroethane	102	102	70-130	0	25
Benzene	103	100	70-130	3	25
Toluene	107	106	70-130	1	25
Ethylbenzene	108	106	70-130	2	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0902334

**Project Number:** 0095922

**Report Date:** 02/26/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG353601-1 WG353601-2					
Chloromethane	91	89	70-130	2	50
Bromomethane	78	90	70-130	14	50
Vinyl chloride	92	89	70-130	3	25
Chloroethane	111	105	70-130	6	25
1,1-Dichloroethene	97	92	70-130	5	25
trans-1,2-Dichloroethene	98	93	70-130	5	25
Trichloroethene	95	93	70-130	2	25
1,2-Dichlorobenzene	109	109	70-130	0	25
1,3-Dichlorobenzene	115	108	70-130	6	25
1,4-Dichlorobenzene	113	110	70-130	3	25
Methyl tert butyl ether	95	96	70-130	1	25
p/m-Xylene	110	108	70-130	2	25
o-Xylene	111	109	70-130	2	25
cis-1,2-Dichloroethene	99	98	70-130	1	25
Dibromomethane	101	98	70-130	3	25
1,2,3-Trichloropropane	102	102	70-130	0	25
Styrene	113	113	70-130	0	25
Dichlorodifluoromethane	68	64	70-130	6	50
Acetone	70	72	70-130	3	50
Carbon disulfide	84	77	70-130	9	50
2-Butanone	81	81	70-130	0	50

## Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L0902334

Project Number: 0095922

Report Date: 02/26/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG353601-1 WG353601-2					
4-Methyl-2-pentanone	80	80	70-130	0	50
2-Hexanone	74	77	70-130	4	50
Bromochloromethane	114	110	70-130	4	25
Tetrahydrofuran	86	91	70-130	6	25
2,2-Dichloropropane	110	107	70-130	3	50
1,2-Dibromoethane	103	106	70-130	3	25
1,3-Dichloropropane	96	96	70-130	0	25
1,1,1,2-Tetrachloroethane	106	105	70-130	1	25
Bromobenzene	111	108	70-130	3	25
n-Butylbenzene	106	101	70-130	5	25
sec-Butylbenzene	112	106	70-130	6	25
tert-Butylbenzene	111	106	70-130	5	25
o-Chlorotoluene	106	102	70-130	4	25
p-Chlorotoluene	108	103	70-130	5	25
1,2-Dibromo-3-chloropropane	83	87	70-130	5	50
Hexachlorobutadiene	115	106	70-130	8	25
Isopropylbenzene	112	110	70-130	2	25
p-Isopropyltoluene	116	112	70-130	4	25
Naphthalene	90	94	70-130	4	25
n-Propylbenzene	111	106	70-130	5	25
1,2,3-Trichlorobenzene	94	97	70-130	3	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0902334

**Project Number:** 0095922

**Report Date:** 02/26/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG353601-1 WG353601-2					
1,2,4-Trichlorobenzene	102	103	70-130	1	25
1,3,5-Trimethylbenzene	110	106	70-130	4	25
1,2,4-Trimethylbenzene	110	107	70-130	3	25
Ethyl ether	104	99	70-130	5	25
Isopropyl Ether	90	87	70-130	3	25
Ethyl-Tert-Butyl-Ether	96	95	70-130	1	25
Tertiary-Amyl Methyl Ether	101	100	70-130	1	25
1,4-Dioxane	92	90	70-130	2	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		86		70-130
Toluene-d8	96		98		70-130
4-Bromofluorobenzene	94		92		70-130
Dibromofluoromethane	96		97		70-130



# METALS

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0902334**Project Number:** 0095922**Report Date:** 02/26/09**SAMPLE RESULTS**

Lab ID: L0902334-01

Date Collected: 02/18/09 08:15

Client ID: MW-264M-20090218-01

Date Received: 02/18/09

Sample Location: WAYLAND, MA

Field Prep: Field Filtered

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Dissolved Metals - Westborough Laboratory</b>										
Iron, Dissolved	12		mg/l	0.05	1	02/19/09 18:30	02/20/09 14:21	EPA 3005A	60,6010B	AI
Manganese, Dissolved	0.158		mg/l	0.010	1	02/19/09 18:30	02/20/09 14:21	EPA 3005A	60,6010B	AI

Project Name: RAYTHEON WAYLAND

Lab Number: L0902334

Project Number: 0095922

Report Date: 02/26/09

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Laboratory for sample(s): 01 Batch: WG353397-1								
Iron, Dissolved	ND	mg/l	0.05	1	02/19/09 18:30	02/20/09 13:37	60,6010B	AI
Manganese, Dissolved	ND	mg/l	0.010	1	02/19/09 18:30	02/20/09 13:37	60,6010B	AI

### Prep Information

Digestion Method: EPA 3005A

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0095922

**Lab Number:** L0902334

**Report Date:** 02/26/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Dissolved Metals - Westborough Laboratory Associated sample(s): 01 Batch: WG353397-2 WG353397-3					
Iron, Dissolved	96	95	80-120	1	20
Manganese, Dissolved	95	94	80-120	1	20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

### SAMPLE RESULTS

**Lab ID:** L0902334-01  
**Client ID:** MW-264M-20090218-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 02/18/09 08:15  
**Date Received:** 02/18/09  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Laboratory</b>									
Alkalinity, Total	81		mg CaCO <sub>3</sub> /L	2.0	1	-	02/19/09 10:46	30,2320B	SD
Chloride	16		mg/l	1.0	1	-	02/18/09 18:36	1,9251	DD
Nitrogen, Nitrate	ND		mg/l	0.10	1	-	02/19/09 21:11	30,4500NO <sub>3</sub> -F	DD
Phosphorus, Total	0.051		mg/l	0.010	1	-	02/21/09 17:35	30,4500P-E	ST
Sulfate	26		mg/l	10	1	02/20/09 09:30	02/20/09 09:30	1,9038	SD
Total Organic Carbon	1.1		mg/l	0.50	1	-	02/23/09 10:16	1,9060	DW



Project Name: RAYTHEON WAYLAND

Lab Number: L0902334

Project Number: 0095922

Report Date: 02/26/09

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Laboratory for sample(s): 01 Batch: WG353211-2								
Chloride	ND	mg/l	1.0	1	-	02/18/09 18:23	1,9251	DD
General Chemistry - Westborough Laboratory for sample(s): 01 Batch: WG353381-2								
Nitrogen, Nitrate	ND	mg/l	0.10	1	-	02/19/09 20:53	30,4500NO3-F	DD
General Chemistry - Westborough Laboratory for sample(s): 01 Batch: WG353642-1								
Total Organic Carbon	ND	mg/l	0.50	1	-	02/23/09 10:16	1,9060	DW
General Chemistry - Westborough Laboratory for sample(s): 01 Batch: WG353989-1								
Phosphorus, Total	ND	mg/l	0.010	1	-	02/21/09 17:07	30,4500P-E	ST
General Chemistry - Westborough Laboratory for sample(s): 01 Batch: WG353997-1								
Sulfate	ND	mg/l	10	1	02/20/09 09:30	02/20/09 09:30	1,9038	SD
General Chemistry - Westborough Laboratory for sample(s): 01 Batch: WG353998-1								
Alkalinity, Total	ND	mg CaCO3/L	2.0	1	-	02/19/09 10:46	30,2320B	SD

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0095922

**Lab Number:** L0902334

**Report Date:** 02/26/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Laboratory Associated sample(s): 01 Batch: WG353211-1					
Chloride	100	-	90-110	-	
General Chemistry - Westborough Laboratory Associated sample(s): 01 Batch: WG353381-1					
Nitrogen, Nitrate	98	-	90-110	-	
General Chemistry - Westborough Laboratory Associated sample(s): 01 Batch: WG353642-2					
Total Organic Carbon	98	-	90-110	-	
General Chemistry - Westborough Laboratory Associated sample(s): 01 Batch: WG353989-2					
Phosphorus, Total	102	-	85-115	-	
General Chemistry - Westborough Laboratory Associated sample(s): 01 Batch: WG353997-2					
Sulfate	105	-	90-115	-	
General Chemistry - Westborough Laboratory Associated sample(s): 01 Batch: WG353998-2					
Alkalinity, Total	102	-	80-115	-	4



### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0902334

**Project Number:** 0095922

**Report Date:** 02/26/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
General Chemistry - Westborough Laboratory Associated sample(s): 01 QC Batch ID: WG353211-3 QC Sample: L0901996-05 Client ID: MS Sample										
Chloride	350	20	360	50	-	-	58-140	-	7	
General Chemistry - Westborough Laboratory Associated sample(s): 01 QC Batch ID: WG353381-3 QC Sample: L0902033-01 Client ID: MS Sample										
Nitrogen, Nitrate	3.6	4	7.3	92	-	-	83-120	-	6	
General Chemistry - Westborough Laboratory Associated sample(s): 01 QC Batch ID: WG353642-3 QC Sample: L0902027-01 Client ID: MS Sample										
Total Organic Carbon	50	160	200	96	-	-	80-120	-	20	
General Chemistry - Westborough Laboratory Associated sample(s): 01 QC Batch ID: WG353989-3 QC Sample: L0901231-40 Client ID: MS Sample										
Phosphorus, Total	0.082	0.5	0.572	98	-	-	80-120	-	20	
General Chemistry - Westborough Laboratory Associated sample(s): 01 QC Batch ID: WG353997-3 QC Sample: L0901231-41 Client ID: MS Sample										
Sulfate	25	40	66	102	-	-	55-147	-	14	
General Chemistry - Westborough Laboratory Associated sample(s): 01 QC Batch ID: WG353998-3 QC Sample: L0901231-42 Client ID: MS Sample										
Alkalinity, Total	68	100	170	102	-	-	86-116	-	4	

## Lab Duplicate Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Project Number: 0095922

Lab Number: L0902334

Report Date: 02/26/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Westborough Laboratory	Associated sample(s): 01	QC Batch ID: WG353211-4	QC Sample: L0901996-05	Client ID: DUP Sample	
Chloride	350	350	mg/l	6	7
General Chemistry - Westborough Laboratory	Associated sample(s): 01	QC Batch ID: WG353381-4	QC Sample: L0902033-02	Client ID: DUP Sample	
Nitrogen, Nitrate	1.3	1.24	mg/l	2	6
General Chemistry - Westborough Laboratory	Associated sample(s): 01	QC Batch ID: WG353642-4	QC Sample: L0902027-01	Client ID: DUP Sample	
Total Organic Carbon	50	51	mg/l	2	20
General Chemistry - Westborough Laboratory	Associated sample(s): 01	QC Batch ID: WG353989-4	QC Sample: L0901231-40	Client ID: DUP Sample	
Phosphorus, Total	0.082	0.082	mg/l	0	20
General Chemistry - Westborough Laboratory	Associated sample(s): 01	QC Batch ID: WG353997-4	QC Sample: L0901231-41	Client ID: DUP Sample	
Sulfate	25	25	mg/l	0	14
General Chemistry - Westborough Laboratory	Associated sample(s): 01	QC Batch ID: WG353998-4	QC Sample: L0901231-42	Client ID: DUP Sample	
Alkalinity, Total	68	66	mg CaCO <sub>3</sub> /L	3	4

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

## 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.
- 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.
- NI - Not Ignitable.
- 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.
- ND - Not detected at the reported detection limit for the sample.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL 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

The following data qualifiers have been identified for use under the CT DEP Reasonable Confidence Protocols.

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.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

J - Estimated value. The analyte was tentatively identified; the quantitation is an estimation. (Tentatively identified compounds only.)

### Standard Qualifiers

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902334  
**Report Date:** 02/26/09

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 60 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). May 2004.

## 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 Woods Hole Labs 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 Woods Hole Labs.

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 18, 2009 - 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.

*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: Haloacetic Acids, Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB).)

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Calcium 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.)

*Solid Waste/Soil* (Inorganic Parameters: Lead in Paint, pH, 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), Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), 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: MA0086.

*Drinking Water* (Inorganic Parameters: SM9215B, 9221E, 9222B, 9222D, 9223B, EPA 150.1, 180.1, 300.0, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1. Organic Parameters: 504.1, 524.2, SM 6251B.)

*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, 4500CI-D, 4500CI-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.)

### 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, Nitrite-N, Fluoride, Sulfate)

353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, EPA 150.1, SM4500H-B.

Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)

(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), SM6251B, 314.0.

#### *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, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Nitrate-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, 4500CN-CE, 2540D, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCB-Water) 600/4-81-045-PCB-Oil

**Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.***Drinking Water*

Microbiology Parameters: SM9215B; MF-SM9222B; ENZ. SUB. SM9223; EC-SM9221E; MF-SM9222D; ENZ. SUB. SM9223;

**New Hampshire Department of Environmental Services Certificate/Lab ID: 200307.**

*Drinking Water (Inorganic Parameters:* SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 110.2, 120.1, 150.1, 300.0, 325.2, 314.0, SM4500CN-E, 4500H+B, 4500NO<sub>3</sub>-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, 150.1, 300.0, 305.1, 310.1, 325.2, 340.2, 350.1, 350.2, 351.1, 353.2, 354.1, 365.2, 375.4, 376.2, 405.1, 415.1, 420.1, 425.1, 1664A, SW-846 9010, 9030, 9040B, EPA 160.1, 160.2, 160.3, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH<sub>3</sub>-H, 4500NH<sub>3</sub>-E, 4500NO<sub>2</sub>-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.**

*Drinking Water (Inorganic Parameters:* SM9222B, 9221E, 9223B, 9215B, 4500NO<sub>3</sub>-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, 331.0, 110.2, SM2120B, 2510B, 5310C, EPA 150.1, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)

*Non-Potable Water (Inorganic Parameters:* SM5210B, EPA 410.1, SM5220D, 4500CI-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO<sub>3</sub>-F, 4500NO<sub>2</sub>-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, 4500NH<sub>3</sub>-H, EPA 350.2/1, 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.)

*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, 3540C, 3545, 3550B, 3580A, 5035L, 5035H.)

**New York Department of Health Certificate/Lab ID: 11148.**

*Drinking Water (Inorganic Parameters:* SM9223B, 9222B, 8215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 331.0, SM2320B, EPA 300.0, 325.2, 110.2, SM2120B, 4500CN-E, 4500F-C, EPA 150.1, SM4500H-B, 4500NO<sub>3</sub>-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1, SM6251B.)

*Non-Potable Water (Inorganic Parameters:* SM9221E, 9222D, 9221B, 9222B, 9215B, EPA 405.1, SM5210B, EPA 410.4, SM5220D, EPA 305.1, SM2310B-4a, EPA 310.1, SM2320B, EPA 200.7, 300.0, 325.2, LACHAT 10-117-07-1A or B, SM4500CI-E, EPA 340.2, SM4500F-C, EPA 375.4, SM15 426C, EPA 350.1, 350.2, LACHAT 10-107-06-1-B, SM4500NH<sub>3</sub>-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO<sub>3</sub>F, EPA 354.1, SM4500-NO<sub>2</sub>-B, EPA 365.2, SM4500P-E, EPA 160.3, SM2540B, EPA 160.1, SM2540C, EPA 160.2, SM2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, 110.2, SM2120B, 335.2, LACHAT 10-204-00-1-A, EPA 150.1, 9040B, SM4500-HB, EPA 1664A, EPA 415.1, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, EPA 376.2, SM4500S-D, EPA 425.1, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, 8021B, EPA 3510C, 5030B, 9010B, 9030B.)

*Solid & Hazardous Waste (Inorganic Parameters:* EPA 9040B, 9045C, 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 3005A, 3050B, 3051, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 8021B, 3540C, 3545, 3580, 5030B, 5035.)

*Analytical Services Protocol:* CLP Volatile Organics, CLP Inorganics, CLP PCB/Pesticides.

**Rhode Island Department of Health Certificate/Lab ID: LAO00065.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. Registered Laboratory.**









## ANALYTICAL REPORT

Lab Number:	L0902526
Client:	ERM Consulting & Engineering, Inc. 399 Boylston Street 6th Floor Boston, MA 02116
ATTN:	Bahaar Frost
Project Name:	RAYTHEON WAYLAND
Project Number:	0095922
Report Date:	03/04/09

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.

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



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>
L0902526-01	DEP-19M-20090219-01	WAYLAND, MA

Project Name: RAYTHEON WAYLAND

Lab Number: L0902526

Project Number: 0095922

Report Date: 03/04/09

### 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, B, C & D is required for "Presumptive Certainty" status		
A	Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set?	YES
B	Were all QA/QC procedures required for the specified analytical methods(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	YES
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	YES
D	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?	N/A
A response to questions E and F is required for "Presumptive Certainty" status		
E	Were all QC performance standards and recommendations for the specified method(s) achieved?	NO
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	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  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

### 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.

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.

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.

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#### MCP Related Narratives

##### Sample Receipt

The sample was Field Filtered for Dissolved Metals only.

##### Volatile Organics

In reference to question E:

The WG353738-1/-2 LCS/LCSD recoveries associated with L0902526-01 are below the acceptance criteria for Dichlorodifluoromethane (60%/65%); however, it has been identified as a "difficult" analyte. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

### Case Narrative (continued)

In reference to question F:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

Metals

In reference to question F:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

Non-MCP Related Narratives

Sulfate

L0902526-01 has an elevated detection limit due to the dilution required to quantitate the result within the calibration range.

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:



Title: Technical Director/Representative

Date: 03/04/09

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0902526**Project Number:** 0095922**Report Date:** 03/04/09**SAMPLE RESULTS**

**Lab ID:** L0902526-01  
**Client ID:** DEP-19M-20090219-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water  
**Analytical Method:** 60,8260B  
**Analytical Date:** 02/23/09 12:32  
**Analyst:** MM

**Date Collected:** 02/19/09 14:30  
**Date Received:** 02/20/09  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	ND		ug/l	0.75	1
Chloroform	ND		ug/l	0.75	1
Carbon tetrachloride	ND		ug/l	0.50	1
1,2-Dichloropropane	ND		ug/l	1.8	1
Dibromochloromethane	ND		ug/l	0.50	1
1,1,2-Trichloroethane	ND		ug/l	0.75	1
Tetrachloroethene	ND		ug/l	0.50	1
Chlorobenzene	ND		ug/l	0.50	1
1,2-Dichloroethane	ND		ug/l	0.50	1
1,1,1-Trichloroethane	ND		ug/l	0.50	1
Bromodichloromethane	ND		ug/l	0.50	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	0.50	1
Chloromethane	ND		ug/l	2.5	1
Vinyl chloride	ND		ug/l	1.0	1
Chloroethane	ND		ug/l	1.0	1
1,1-Dichloroethene	ND		ug/l	0.50	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	1
Trichloroethene	1.2		ug/l	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.5	1
1,3-Dichlorobenzene	ND		ug/l	2.5	1
1,4-Dichlorobenzene	ND		ug/l	2.5	1
cis-1,2-Dichloroethene	13		ug/l	0.50	1
Dichlorodifluoromethane	ND		ug/l	5.0	1
1,2-Dibromoethane	ND		ug/l	2.0	1
1,3-Dichloropropane	ND		ug/l	2.5	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	1



**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0902526**Project Number:** 0095922**Report Date:** 03/04/09**SAMPLE RESULTS**

Lab ID: L0902526-01

Date Collected: 02/19/09 14:30

Client ID: DEP-19M-20090219-01

Date Received: 02/20/09

Sample Location: WAYLAND, MA

Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>MCP Volatile Organics - Westborough Lab</b>					
o-Chlorotoluene	ND		ug/l	2.5	1
p-Chlorotoluene	ND		ug/l	2.5	1
Hexachlorobutadiene	ND		ug/l	0.60	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	130		70-130

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 60,8260B  
Analytical Date: 02/23/09 11:54  
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG353738-3				
Methylene chloride	ND		ug/l	5.0
1,1-Dichloroethane	ND		ug/l	0.75
Chloroform	ND		ug/l	0.75
Carbon tetrachloride	ND		ug/l	0.50
1,2-Dichloropropane	ND		ug/l	1.8
Dibromochloromethane	ND		ug/l	0.50
1,1,2-Trichloroethane	ND		ug/l	0.75
Tetrachloroethene	ND		ug/l	0.50
Chlorobenzene	ND		ug/l	0.50
1,2-Dichloroethane	ND		ug/l	0.50
1,1,1-Trichloroethane	ND		ug/l	0.50
Bromodichloromethane	ND		ug/l	0.50
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	0.50
Chloromethane	ND		ug/l	2.5
Vinyl chloride	ND		ug/l	1.0
Chloroethane	ND		ug/l	1.0
1,1-Dichloroethene	ND		ug/l	0.50
trans-1,2-Dichloroethene	ND		ug/l	0.75
Trichloroethene	ND		ug/l	0.50
1,2-Dichlorobenzene	ND		ug/l	2.5
1,3-Dichlorobenzene	ND		ug/l	2.5
1,4-Dichlorobenzene	ND		ug/l	2.5
cis-1,2-Dichloroethene	ND		ug/l	0.50
Dichlorodifluoromethane	ND		ug/l	5.0
1,2-Dibromoethane	ND		ug/l	2.0
1,3-Dichloropropane	ND		ug/l	2.5
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50
o-Chlorotoluene	ND		ug/l	2.5

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 60,8260B  
Analytical Date: 02/23/09 11:54  
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG353738-3				
p-Chlorotoluene	ND		ug/l	2.5
Hexachlorobutadiene	ND		ug/l	0.60
1,2,4-Trichlorobenzene	ND		ug/l	2.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	130		70-130

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0902526

**Project Number:** 0095922

**Report Date:** 03/04/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG353738-1 WG353738-2					
Methylene chloride	76	82	70-130	8	25
1,1-Dichloroethane	96	100	70-130	4	25
Chloroform	84	90	70-130	7	25
Carbon tetrachloride	74	77	70-130	4	25
1,2-Dichloropropane	94	95	70-130	1	25
Dibromochloromethane	84	80	70-130	5	25
1,1,2-Trichloroethane	84	83	70-130	1	25
Tetrachloroethene	89	92	70-130	3	25
Chlorobenzene	90	92	70-130	2	25
1,2-Dichloroethane	92	91	70-130	1	25
1,1,1-Trichloroethane	89	92	70-130	3	25
Bromodichloromethane	88	88	70-130	0	25
trans-1,3-Dichloropropene	75	73	70-130	3	25
cis-1,3-Dichloropropene	80	78	70-130	3	25
Bromoform	88	86	70-130	2	50
1,1,2,2-Tetrachloroethane	88	85	70-130	3	25
Chloromethane	92	99	70-130	7	50
Vinyl chloride	82	90	70-130	9	25
Chloroethane	81	86	70-130	6	25
1,1-Dichloroethene	83	91	70-130	9	25
trans-1,2-Dichloroethene	100	103	70-130	3	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG353738-1 WG353738-2					
Trichloroethene	90	91	70-130	1	25
1,2-Dichlorobenzene	91	91	70-130	0	25
1,3-Dichlorobenzene	93	94	70-130	1	25
1,4-Dichlorobenzene	92	94	70-130	2	25
cis-1,2-Dichloroethene	100	103	70-130	3	25
Dichlorodifluoromethane	60	65	70-130	8	50
1,2-Dibromoethane	84	82	70-130	2	25
1,3-Dichloropropane	82	79	70-130	4	25
1,1,1,2-Tetrachloroethane	90	90	70-130	0	25
o-Chlorotoluene	85	86	70-130	1	25
p-Chlorotoluene	87	88	70-130	1	25
Hexachlorobutadiene	87	94	70-130	8	25
1,2,4-Trichlorobenzene	86	85	70-130	1	25

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		98		70-130
Toluene-d8	95		96		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	113		117		70-130

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
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MCP Volatile Organics - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353738-4 WG353738-5 QC Sample: L0902178-07 Client ID: MS Sample

Methylene chloride	ND	1000	940	94	980	98	70-130	4	30
1,1-Dichloroethane	ND	1000	1000	105	1100	111	70-130	6	30
Chloroform	ND	1000	1000	105	1100	110	70-130	5	30
Carbon tetrachloride	ND	1000	960	96	1000	100	70-130	4	30
1,2-Dichloropropane	ND	1000	1100	113	1200	121	70-130	7	30
Dibromochloromethane	ND	1000	930	93	990	99	70-130	6	30
1,1,2-Trichloroethane	ND	1000	1000	101	1000	106	70-130	5	30
Tetrachloroethene	ND	1000	1000	101	1000	104	70-130	3	30
Chlorobenzene	ND	1000	1000	102	1100	107	70-130	5	30
1,2-Dichloroethane	ND	1000	1000	104	1100	110	70-130	6	30
1,1,1-Trichloroethane	ND	1000	990	99	1000	103	70-130	4	30
Bromodichloromethane	ND	1000	1000	106	1100	112	70-130	6	30
trans-1,3-Dichloropropene	ND	1000	900	90	930	93	70-130	3	30
cis-1,3-Dichloropropene	ND	1000	980	98	1000	104	70-130	6	30
Bromoform	ND	1000	820	82	880	88	70-130	7	30
1,1,2,2-Tetrachloroethane	ND	1000	940	95	980	98	70-130	3	30
Chloromethane	ND	1000	860	86	940	94	70-130	9	30
Vinyl chloride	ND	1000	880	89	910	91	70-130	2	30
Chloroethane	ND	1000	930	93	960	96	70-130	3	30
1,1-Dichloroethene	ND	1000	960	96	970	97	70-130	1	30
trans-1,2-Dichloroethene	ND	1000	1100	111	1200	116	70-130	4	30

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
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MCP Volatile Organics - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353738-4 WG353738-5 QC Sample: L0902178-07 Client ID: MS Sample

Trichloroethene	1500	1000	2700	125	2800	129	70-130	3	30
1,2-Dichlorobenzene	ND	1000	960	96	1000	101	70-130	5	30
1,3-Dichlorobenzene	ND	1000	970	97	1000	103	70-130	6	30
1,4-Dichlorobenzene	ND	1000	970	97	1000	103	70-130	6	30
cis-1,2-Dichloroethene	ND	1000	1200	120	1200	125	70-130	4	30
Dichlorodifluoromethane	ND	1000	790	79	770	77	70-130	3	30
1,2-Dibromoethane	ND	1000	1000	100	1100	107	70-130	7	30
1,3-Dichloropropane	ND	1000	970	97	1000	102	70-130	5	30
1,1,1,2-Tetrachloroethane	ND	1000	1000	100	1100	107	70-130	7	30
o-Chlorotoluene	ND	1000	870	87	920	93	70-130	7	30
p-Chlorotoluene	ND	1000	890	89	940	94	70-130	5	30
Hexachlorobutadiene	ND	1000	730	73	800	80	70-130	9	30
1,2,4-Trichlorobenzene	ND	1000	770	77	860	86	70-130	11	30

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		94		70-130
4-Bromofluorobenzene	93		91		70-130
Dibromofluoromethane	111		113		70-130
Toluene-d8	93		92		70-130

# METALS



**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0902526**Project Number:** 0095922**Report Date:** 03/04/09**SAMPLE RESULTS**

Lab ID: L0902526-01

Date Collected: 02/19/09 14:30

Client ID: DEP-19M-20090219-01

Date Received: 02/20/09

Sample Location: WAYLAND, MA

Field Prep: Field Filtered

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>MCP Dissolved Metals - Westborough Lab</b>										
Iron, Dissolved	4.2		mg/l	0.05	1	02/21/09 13:30	02/23/09 14:35	EPA 3005A	60,6010B	AI
Manganese, Dissolved	0.282		mg/l	0.010	1	02/21/09 13:30	02/23/09 14:35	EPA 3005A	60,6010B	AI

Project Name: RAYTHEON WAYLAND

Lab Number: L0902526

Project Number: 0095922

Report Date: 03/04/09

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG353579-1								
Iron, Dissolved	ND	mg/l	0.05	1	02/21/09 13:30	02/23/09 14:22	60,6010B	AI
Manganese, Dissolved	ND	mg/l	0.010	1	02/21/09 13:30	02/23/09 14:22	60,6010B	AI

### Prep Information

Digestion Method: EPA 3005A

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0902526

**Project Number:** 0095922

**Report Date:** 03/04/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG353579-2 WG353579-3					
Iron, Dissolved	100	100	80-120	0	20
Manganese, Dissolved	98	98	80-120	0	20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

### SAMPLE RESULTS

**Lab ID:** L0902526-01  
**Client ID:** DEP-19M-20090219-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 02/19/09 14:30  
**Date Received:** 02/20/09  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>									
Alkalinity, Total	51		mg CaCO3/L	2.0	1	-	02/23/09 11:18	30,2320B	SD
Chloride	9.5		mg/l	1.0	1	-	02/24/09 18:49	1,9251	DD
Nitrogen, Nitrate	0.14		mg/l	0.10	1	-	02/20/09 22:45	30,4500NO3-F	DD
Phosphorus, Total	0.018		mg/l	0.010	1	-	02/25/09 14:10	30,4500P-E	ST
Sulfate	70		mg/l	20	2	02/24/09 10:05	02/24/09 10:05	1,9038	SD
Total Organic Carbon	1.2		mg/l	0.50	1	-	02/26/09 16:19	1,9060	DW



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG353523-2								
Nitrogen, Nitrate	ND	mg/l	0.10	1	-	02/20/09 23:22	30,4500NO3-F	DD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG353670-1								
Alkalinity, Total	ND	mg CaCO3/L	2.0	1	-	02/23/09 11:18	30,2320B	SD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG353778-2								
Chloride	ND	mg/l	1.0	1	-	02/24/09 18:46	1,9251	DD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG353849-1								
Phosphorus, Total	ND	mg/l	0.010	1	-	02/25/09 14:05	30,4500P-E	ST
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG353977-1								
Sulfate	ND	mg/l	10	1	02/24/09 10:05	02/24/09 10:05	1,9038	SD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG354112-1								
Total Organic Carbon	ND	mg/l	0.50	1	-	02/26/09 16:19	1,9060	DW

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0095922

**Lab Number:** L0902526

**Report Date:** 03/04/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG353523-1					
Nitrogen, Nitrate	98	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG353670-2					
Alkalinity, Total	103	-	80-115	-	4
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG353778-1					
Chloride	100	-	90-110	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG353849-2					
Phosphorus, Total	105	-	85-115	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG353977-2					
Sulfate	110	-	90-115	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG354112-2					
Total Organic Carbon	100	-	90-110	-	

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353523-3 QC Sample: L0902178-02 Client ID: MS Sample										
Nitrogen, Nitrate	ND	4	4.1	102	-	-	83-120	-	6	
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353670-3 QC Sample: L0902178-16 Client ID: MS Sample										
Alkalinity, Total	59	100	150	92	-	-	86-116	-	4	
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353778-3 QC Sample: L0902181-02 Client ID: MS Sample										
Chloride	15	20	35	100	-	-	58-140	-	7	
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353849-3 QC Sample: L0902178-10 Client ID: MS Sample										
Phosphorus, Total	0.054	0.5	0.569	103	-	-	80-120	-	20	
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353977-3 QC Sample: L0902178-08 Client ID: MS Sample										
Sulfate	15	20	34	95	-	-	55-147	-	14	
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG354112-3 QC Sample: L0902178-03 Client ID: MS Sample										
Total Organic Carbon	1.4	4	5.1	93	-	-	80-120	-	20	



## Lab Duplicate Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Project Number: 0095922

Lab Number: L0902526

Report Date: 03/04/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353523-4 QC Sample: L0902178-04 Client ID: DUP Sample					
Nitrogen, Nitrate	0.11	ND	mg/l	NC	6
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353670-4 QC Sample: L0902178-16 Client ID: DUP Sample					
Alkalinity, Total	59	58	mg CaCO3/L	2	4
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353778-4 QC Sample: L0902178-04 Client ID: DUP Sample					
Chloride	9.3	9.1	mg/l	2	7
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353849-4 QC Sample: L0902178-10 Client ID: DUP Sample					
Phosphorus, Total	0.054	0.054	mg/l	0	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG353977-4 QC Sample: L0902178-08 Client ID: DUP Sample					
Sulfate	15	15	mg/l	0	14
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG354112-4 QC Sample: L0902178-01 Client ID: DUP Sample					
Total Organic Carbon	1.2	1.2	mg/l	0	20

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

## 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.  
 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.  
 NI - Not Ignitable.  
 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.  
 ND - Not detected at the reported detection limit for the sample.  
 RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL 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

The following data qualifiers have been identified for use under the CT DEP Reasonable Confidence Protocols.

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.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

J - Estimated value. The analyte was tentatively identified; the quantitation is an estimation. (Tentatively identified compounds only.)

### Standard Qualifiers

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

Report Format: Not Specified



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0095922

**Lab Number:** L0902526  
**Report Date:** 03/04/09

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 60 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). May 2004.

## 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 Woods Hole Labs 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 Woods Hole Labs.

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 18, 2009 - 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.

*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: Haloacetic Acids, Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB).)

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Calcium 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.)

*Solid Waste/Soil* (Inorganic Parameters: Lead in Paint, pH, 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), Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), 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: MA0086.

*Drinking Water* (Inorganic Parameters: SM9215B, 9221E, 9222B, 9222D, 9223B, EPA 150.1, 180.1, 300.0, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1. Organic Parameters: 504.1, 524.2, SM 6251B.)

*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, 4500CI-D, 4500CI-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.)

### 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, Nitrite-N, Fluoride, Sulfate)

353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, EPA 150.1, SM4500H-B.

Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)

(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), SM6251B, 314.0.

#### *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,Ti,V,Zn,Ca,Mg,Na,K)

245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Nitrate-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, 4500CN-CE, 2540D, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCB-Water) 600/4-81-045-PCB-Oil

**Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.***Drinking Water*

Microbiology Parameters: SM9215B; MF-SM9222B; ENZ. SUB. SM9223; EC-SM9221E; MF-SM9222D; ENZ. SUB. SM9223;

**New Hampshire Department of Environmental Services Certificate/Lab ID: 200307.**

*Drinking Water (Inorganic Parameters:* SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 110.2, 120.1, 150.1, 300.0, 325.2, 314.0, SM4500CN-E, 4500H+B, 4500NO<sub>3</sub>-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, 150.1, 300.0, 305.1, 310.1, 325.2, 340.2, 350.1, 350.2, 351.1, 353.2, 354.1, 365.2, 375.4, 376.2, 405.1, 415.1, 420.1, 425.1, 1664A, SW-846 9010, 9030, 9040B, EPA 160.1, 160.2, 160.3, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH<sub>3</sub>-H, 4500NH<sub>3</sub>-E, 4500NO<sub>2</sub>-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.**

*Drinking Water (Inorganic Parameters:* SM9222B, 9221E, 9223B, 9215B, 4500NO<sub>3</sub>-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, 331.0, 110.2, SM2120B, 2510B, 5310C, EPA 150.1, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)

*Non-Potable Water (Inorganic Parameters:* SM5210B, EPA 410.1, SM5220D, 4500CI-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO<sub>3</sub>-F, 4500NO<sub>2</sub>-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, 4500NH<sub>3</sub>-H, EPA 350.2/1, 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.)

*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, 3540C, 3545, 3550B, 3580A, 5035L, 5035H.)

**New York Department of Health Certificate/Lab ID: 11148.**

*Drinking Water (Inorganic Parameters:* SM9223B, 9222B, 8215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 331.0, SM2320B, EPA 300.0, 325.2, 110.2, SM2120B, 4500CN-E, 4500F-C, EPA 150.1, SM4500H-B, 4500NO<sub>3</sub>-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1, SM6251B.)

*Non-Potable Water (Inorganic Parameters:* SM9221E, 9222D, 9221B, 9222B, 9215B, EPA 405.1, SM5210B, EPA 410.4, SM5220D, EPA 305.1, SM2310B-4a, EPA 310.1, SM2320B, EPA 200.7, 300.0, 325.2, LACHAT 10-117-07-1A or B, SM4500CI-E, EPA 340.2, SM4500F-C, EPA 375.4, SM15 426C, EPA 350.1, 350.2, LACHAT 10-107-06-1-B, SM4500NH<sub>3</sub>-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO<sub>3</sub>F, EPA 354.1, SM4500-NO<sub>2</sub>-B, EPA 365.2, SM4500P-E, EPA 160.3, SM2540B, EPA 160.1, SM2540C, EPA 160.2, SM2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, 110.2, SM2120B, 335.2, LACHAT 10-204-00-1-A, EPA 150.1, 9040B, SM4500-HB, EPA 1664A, EPA 415.1, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, EPA 376.2, SM4500S-D, EPA 425.1, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, 8021B, EPA 3510C, 5030B, 9010B, 9030B.)

*Solid & Hazardous Waste (Inorganic Parameters:* EPA 9040B, 9045C, 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 3005A, 3050B, 3051, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 8021B, 3540C, 3545, 3580, 5030B, 5035.)

*Analytical Services Protocol:* CLP Volatile Organics, CLP Inorganics, CLP PCB/Pesticides.

**Rhode Island Department of Health Certificate/Lab ID: LAO00065.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NY-DOH Certificate for Potable and Non-Potable Water.

**Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. Registered Laboratory.**





# CHAIN OF CUSTODY

PAGE 1 OF 3

Eight Walkup Drive Westborough, MA 01581  
 TEL: 508-898-9220 FAX: 508-898-9193

**Client Information**

Client: **ERM**

Address: **399 Baylston St., 6th Floor Boston, MA**

Phone: **(617) 644-7608**

Fax: **(617) 247-6447**

Email: **balvaer.Post@erm.com**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**

Project Name: **Rawlston Maryland**

Project Location: **Weyland, MA**

Project #: **0095922**

Project Manager: **JASON FLETCHER**

ALPHA Quote #:

Turn-Around Time

Standard

RUSH (not confirmed if pre-approved)

Date Due: **2/27/09**

Time:

**Report Information - Data Delivery**

FAX  EMAIL

Add'l Deliverables

**Billing Information**

Same as Client Info

PO #:

**Regulatory Requirements/Report Limits**

State/Fed Program

**MA MCP**

Criteria

**GM2**

**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?

**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	Time	Sample Matrix	Sampler's Initials
02178.1	DEP-19M-20090219-01	2/19/09	14:30	GW	EW

ANALYST  
 8021B  
 Chloride, NO<sub>3</sub>, SO<sub>4</sub>  
 Diss Fe+Mn  
 TOC  
 Total Phos.  
 Alkalinity

Sample Specific Comments

only able to extract chloride NO<sub>3</sub>, SO<sub>4</sub> before venting

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

Relinquished By:	Date/Time	Container Type	Preservative	Received By:	Date/Time
<i>Jason Fletcher</i>	2/20/09 11:18	V	P	<i>Jason Fletcher</i>	2/20/09 11:59
		B	A		
		C	B		
		D	A		

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.