

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

*Appendix C*  
*2008 Groundwater Sampling*

## Certificate of Analysis: Quantitative Gene-Trac *Dehalococcoides* Assay

**Customer:** Jason Flattery, ERM

**SiREM Reference:** S-1251

**Project:** Raytheon Wayland

**Report Issued:** 25-Mar-08

**Customer Reference:** 0079387

**Data Files:** DHC-UP-0437/0437

QPCR-0325/QPCR check-gel-0232

**Table 1: Test Results**

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc <sup>A</sup>	<i>Dehalococcoides</i> Enumeration <sup>B</sup>
MW-261S-20080306-01	DHC-3788	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>
MW-265M-20080306-01	DHC-3790	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>
MW-266Ma-20080306-01	DHC-3791	6-Mar-08	Groundwater	0.0003-0.001%	3 x 10 <sup>3</sup> /liter <sup>(3)</sup>
MW-266Mb-20080306-01	DHC-3792	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>
MW-267S-20080306-01	DHC-3793	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2,4)</sup>
MW-267M-20080306-01	DHC-3794	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2,4)</sup>
MW-268M-20080306-01	DHC-3795	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2,4)</sup>
MW-268D-20080306-01	DHC-3796	6-Mar-08	Groundwater	0.01-0.04%	6 x 10 <sup>4</sup> /liter
MW-551-20080306-01	DHC-3797	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>
MW-552-20080306-01	DHC-3798	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2,4)</sup>
MW-553-20080306-01	DHC-3799	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>
DUP-001-20080306-01	DHC-3800	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2,4)</sup>

## Certificate of Analysis: Quantitative Gene-Trac *Dehalococcoides* Assay

### Notes:

<sup>A</sup> Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample.

<sup>B</sup>Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

NA = not applicable

ND= not detected

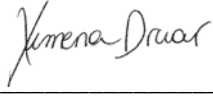
<sup>1</sup>Not applicable as *Dehalococcoides* not detected.

<sup>2</sup>Not detected. The quantitation limit is  $4 \times 10^3$ /liter.

<sup>3</sup>*Dehalococcoides* DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is  $4 \times 10^3$ /liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac *Dehalococcoides* Test Results.

<sup>4</sup>Sample inhibited testing; this increases the probability that test result is a false negative.

Analyst:   
Jennifer Wilkinson  
Biotechnology Technologist

Approved:   
Ximena Druar, B.Sc.  
Molecular Biology Coordinator

## Certificate of Analysis: Gene-Trac-VC, Vinyl Chloride Reductase Assay (*vcrA*) Assay

**Customer:** Jason Flattery, ERM  
**Project:** Raytheon Wayland  
**Customer Reference:** 0079387

**SiREM Reference:** S-1251  
**Report Issued:** 25-Mar-08  
**Data Files:** VC-QPCR-0119

**Table 1: Test Results**

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent <i>vcrA</i> <sup>A</sup>	Vinyl Chloride Reductase ( <i>vcrA</i> ) Gene Copies
MW-266Ma-20080306-01	VCR-0781	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>
MW-268D-20080306-01	VCR-0782	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>


**Notes:**


<sup>A</sup> Percent *vcrA* in microbial population. This value is calculated by dividing the number of vinyl chloride reductase A (*vcrA*) gene copies quantified by the total number of bacteria estimated to be in the sample based on the mass of DNA extracted from the sample. Range represents normal variation in enumeration of *vcrA*.

NA = not applicable  
ND= not detected

<sup>1</sup>Not applicable as *vcrA* not detected.

<sup>2</sup>Not detected. The sample specific quantitation limit is 4 x 10<sup>3</sup>/liter.

Analyst:   
Jennifer Wilkinson  
Biotechnology Technologist

Approved:   
Ximena Druar, B.Sc.  
Molecular Biology Coordinator

**Table 2.1: Detailed Test Parameters, Gene-Trac Test Reference S-1251**

<b>Customer Sample ID</b>	MW-261S-20080306-01	MW-265M-20080306-01	MW-266Ma-20080306-01	MW-266Mb-20080306-01
<b>SiREM Test ID</b>	DHC-3788	DHC-3790	DHC-3791/VCR-0781	DHC-3792
<b>Date Received</b>	7-Mar-08	7-Mar-08	7-Mar-08	7-Mar-08
<b>Sample Temperature</b>	8.5 °C	8.5 °C	8.5 °C	8.5 °C
<b>Volume Used for DNA Extraction</b>	500 mL	500 mL	500 mL	500 mL
<b>DNA Extraction Date</b>	18-Mar-08	18-Mar-08	18-Mar-08	18-Mar-08
<b>DNA Concentration in Sample (extractable)</b>	2665 ng/L	1324 ng/L	2505 ng/L	2612 ng/L
<b>Extracted DNA Quality Test (universal PCR primers)</b>	ND	ND	ND	ND
<b>Secondary DNA Purification</b>	R	R	R	R
<b>DNA Repurification Date</b>	24-Mar-08	24-Mar-08	24-Mar-08	24-Mar-08
<b>Extracted DNA Quality Test (after repurification)</b>	Passed	Passed	Passed	Passed
<b>Dhc qPCR Analysis Date</b>	24-Mar-08	24-Mar-08	24-Mar-08	24-Mar-08
<b>vcrA qPCR Analysis Date</b>	NA	NA	25-Mar-08	NA
<b>qPCR Controls (see Table 3)</b>	Passed	Passed	Passed	Passed
<b>Comments</b>	--	--	--	--

**Notes:**

Refer to Table 3 & 4 for detailed results of control  
 NR = not required  
 ND = not detected  
 °C = degrees Celsius

PCR = polymerase chain reaction  
 qPCR = quantitative PCR  
 Dhc = *Dehalococcoides*

ng/L = nanograms per liter  
 mL = milliliters  
 DNA = Deoxyribonucleic acid

**Table 2.2: Detailed Test Parameters, Gene-Trac Test Reference S-1251**

<b>Customer Sample ID</b>	MW-267S-20080306-01	MW-267M-20080306-01	MW-268M-20080306-01	MW-268D-20080306-01
<b>SiREM Test ID</b>	DHC-3793	DHC-3794	DHC-3795	DHC-3796/VCR-0782
<b>Date Received</b>	7-Mar-08	7-Mar-08	7-Mar-08	7-Mar-08
<b>Sample Temperature</b>	8.5 °C	8.5 °C	8.5 °C	8.5 °C
<b>Volume Used for DNA Extraction</b>	500 mL	500 mL	500 mL	500 mL
<b>DNA Extraction Date</b>	18-Mar-08	18-Mar-08	18-Mar-08	18-Mar-08
<b>DNA Concentration in Sample (extractable)</b>	1547 ng/L	1497 ng/L	1582 ng/L	863 ng/L
<b>Extracted DNA Quality Test (universal PCR primers)</b>	ND	ND	ND	ND
<b>Secondary DNA Purification</b>	R	R	R	R
<b>DNA Repurification Date</b>	24-Mar-08	24-Mar-08	24-Mar-08	24-Mar-08
<b>Extracted DNA Quality Test (after repurification)</b>	ND	ND	ND	Passed
<b>Dhc qPCR Analysis Date</b>	24-Mar-08	24-Mar-08	24-Mar-08	24-Mar-08
<b>vcrA qPCR Analysis Date</b>	NA	NA	NA	25-Mar-08
<b>qPCR Controls (see Table 3)</b>	Passed	Passed	Passed	Passed
<b>Comments</b>	--	--		--

**Notes:**

Refer to Table 3 & 4 for detailed results of control

NR = not required

ND = not detected

°C = degrees Celsius

PCR = polymerase chain reaction

qPCR = quantitative PCR

Dhc = *Dehalococcoides*

ng/L = nanograms per liter

mL = milliliters

DNA = Deoxyribonucleic acid

**Table 2.3: Detailed Test Parameters, Gene-Trac Test Reference S-1251**

<b>Customer Sample ID</b>	MW-551-20080306-01	MW-552-20080306-01	MW-553-20080306-01	DUP-001-20080306-01
<b>SiREM Test ID</b>	DHC-3797	DHC-3798	DHC-3799	DHC-3800
<b>Date Received</b>	7-Mar-08	7-Mar-08	7-Mar-08	7-Mar-08
<b>Sample Temperature</b>	8.5 °C	8.5 °C	8.5 °C	8.5 °C
<b>Volume Used for DNA Extraction</b>	500 mL	500 mL	500 mL	500 mL
<b>DNA Extraction Date</b>	18-Mar-08	18-Mar-08	18-Mar-08	18-Mar-08
<b>DNA Concentration in Sample (extractable)</b>	911 ng/L	1147 ng/L	953 ng/L	936 ng/L
<b>Extracted DNA Quality Test (universal PCR primers)</b>	ND	ND	ND	ND
<b>Secondary DNA Purification</b>	R	R	R	R
<b>DNA Repurification Date</b>	24-Mar-08	24-Mar-08	24-Mar-08	24-Mar-08
<b>Extracted DNA Quality Test (after repurification)</b>	Passed	ND	Passed	ND
<b>Dhc qPCR Analysis Date</b>	24-Mar-08	24-Mar-08	24-Mar-08	24-Mar-08
<b>vcrA qPCR Analysis Date</b>	NA	NA	NA	NA
<b>qPCR Controls (see Table 3)</b>	Passed	Passed	Passed	Passed
<b>Comments</b>	--	--		--

**Notes:**

Refer to Table 3 & 4 for detailed results of control

NR = not required

ND = not detected

°C = degrees Celsius

PCR = polymerase chain reaction

qPCR = quantitative PCR

Dhc = *Dehalococcoides*

ng/L = nanograms per liter

mL = milliliters

DNA = Deoxyribonucleic acid



**Table 3: Gene-Trac-DHC Experimental Control Results, Gene-Trac Test Reference S-1251**

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Reaction	Recovered Dhc 16S rRNA Gene Copies per Reaction	Comments
<b>Positive Control Low Concentration</b>	24-Mar-08	qPCR with cloned Dhc gene (9.13 x 10 <sup>5</sup> copies)	9.13 x 10 <sup>5</sup>	1.33 x 10 <sup>6</sup>	Normal <sup>1</sup>
<b>Positive Control High Concentration</b>	24-Mar-08	qPCR with cloned Dhc gene (9.13 x 10 <sup>7</sup> copies)	9.13 x 10 <sup>7</sup>	9.05 x 10 <sup>7</sup>	Normal <sup>1</sup>
<b>DNA Extraction Blank</b>	24-Mar-08	DNA extraction sterile water (DB-0737)	0	ND	Normal
<b>Negative Control</b>	24-Mar-08	Tris Reagent Blank	0	ND	Normal

**Notes:**

<sup>1</sup> Within defined limits of +/- 50%

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

NA = not applicable

ND = not detected

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid

**Table 4: Gene-Trac-VC Experimental Control Results, Gene-Trac Test Reference S-1251**

Laboratory Control	Analysis Date	Control Description	Spiked <i>vcrA</i> reductase Gene Copies per Reaction	Recovered <i>vcrA</i> reductase Gene Copies per Reaction	Comments
<b>Positive Control Low Concentration</b>	25-Mar-08	qPCR with cloned vinyl chloride dehalogenase gene (1.41 x 10 <sup>5</sup> copies)	1.41 x 10 <sup>5</sup>	1.36 x 10 <sup>5</sup>	Normal <sup>1</sup>
<b>Positive Control High Concentration</b>	25-Mar-08	qPCR with cloned vinyl chloride dehalogenase gene (1.41 x 10 <sup>7</sup> copies)	1.41 x 10 <sup>7</sup>	1.34 x 10 <sup>7</sup>	Normal <sup>1</sup>
<b>DNA Extraction Blank</b>	25-Mar-08	DNA extraction sterile water (DB-0737)	0	ND	Normal
<b>Negative Control</b>	25-Mar-08	Tris Reagent Blank	0	ND	Normal

**Notes:**

NA = not applicable

ND = not detected

<sup>1</sup> Within defined limits of +/- 50%

qPCR = quantitative PCR

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

*vcrA* = vinyl chloride reductase





# CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #:

S-1251

WESTBORO, MA RAYNHAM, MA  
 TEL: 508-898-9220 TEL: 508-822-9300  
 FAX: 508-898-9193 FAX: 508-822-3288

**Project Information**

Project Name: Ryan Han Weyland  
 Project Location: Weyland MA  
 Project #: 0079387  
 Project Manager: S. Claffey  
 ALPHA Quote #:

**Report Information - Data Deliverables**

FAX  EMAIL  
 ADEX  Add'l Deliverables

**Billing Information**

Same as Client info PO #:

**Client Information**

Client: ERM  
 Address: 319 Boylston St.  
Boston MA 02166  
 Phone: 617-646-7800  
 Fax: 617-267-6447  
 Email: Jason.Claffey@erm.com  
 These samples have been previously analyzed by Alpha

**Turn-Around Time**

Standard  RUSH (only confirmed if pre-approved!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

**Regulatory Requirements/Report Limits**

State /Fed Program: MA Criteria: 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**  
Gene Trac VC  
Gene Trac D/E

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

**TOTAL # BOTTLES**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time				
	<u>MAW-552-20080306-01</u>	<u>3/6/08</u>	<u>1442</u>		<u>✓ ✓</u>		<u>1</u>
	<u>MAW-553-20070306-01</u>	↓	<u>1641</u>		<u>X X</u>		<u>1</u>
	<u>DUP-001-20080306-01</u>	↓	<u>2400</u>		<u>✓ X</u>		<u>1</u>
<hr/>							

PLEASE ANSWER QUESTIONS ABOVE!  
 IS YOUR PROJECT  
 MA MCP or CT RCP?

Relinquished By:	Date/Time	Container Type	Preservative	Received By:	Date/Time
		<u>P</u>	<u>AX</u>	<u>J. Wilkerson</u>	<u>3/7/08 12:30</u>

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.

## Certificate of Analysis: Quantitative Gene-Trac *Dehalococcoides* Assay

**Customer:** Jason Flattery, ERM

**SiREM Reference:** S-1251

**Project:** Raytheon Wayland

**Report Issued:** 25-Mar-08

**Customer Reference:** 0079387

**Data Files:** DHC-UP-0437/0437  
 QPCR-0325/QPCR check-gel-0232

**Table 1: Test Results**

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc <sup>A</sup>	<i>Dehalococcoides</i> Enumeration <sup>B</sup>
MW-264M-20080306-01	DHC-3789	6-Mar-08	Groundwater	NA <sup>(1)</sup>	ND <sup>(2)</sup>

**Notes:**

<sup>A</sup> Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

<sup>B</sup>Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

NA = not applicable

ND= not detected

<sup>1</sup>Not applicable as *Dehalococcoides* not detected.

<sup>2</sup>Not detected. The quantitation limit is 4 x 10<sup>3</sup>/liter.

**Analyst:**



**Jennifer Wilkinson**  
 Biotechnology Technologist

**Approved:**



**Ximena Druar, B.Sc.**  
 Molecular Biology Coordinator

**Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-1251**

<b>Customer Sample ID</b>	MW-264M-20080306-01
<b>SiREM Test ID</b>	DHC-3789
<b>Date Received</b>	7-Mar-08
<b>Sample Temperature</b>	8.5 °C
<b>Volume Used for DNA Extraction</b>	500 mL
<b>DNA Extraction Date</b>	18-Mar-08
<b>DNA Concentration in Sample (extractable)</b>	1102 ng/L
<b>Extracted DNA Quality Test (universal PCR primers)</b>	ND
<b>Secondary DNA Purification</b>	R
<b>DNA Repurification Date</b>	39531
<b>Extracted DNA Quality Test (after repurification)</b>	Passed
<b>Dhc qPCR Analysis Date</b>	24-Mar-08
<b>qPCR Controls (see Table 3)</b>	Passed
<b>Comments</b>	--

**Notes:**

Refer to Table 3 for detailed results of controls.  
 NA = not applicable  
 ND = not detected  
 mL = milliliters

PCR = polymerase chain reaction  
 qPCR = quantitative PCR  
 Dhc = *Dehalococcoides*  
 ng/L = nanograms per liter

NR = not required  
 R = required  
 DNA = Deoxyribonucleic acid  
 °C = degrees Celsius

**Table 3: Experimental Control Results, Test Reference S-1251**

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Reaction	Recovered Dhc 16S rRNA Gene Copies per Reaction	Comments
<b>Positive Control Low Concentration</b>	24-Mar-08	qPCR with cloned Dhc gene (9.13 x 10 <sup>5</sup> copies)	9.13 x 10 <sup>5</sup>	1.33 x 10 <sup>6</sup>	Normal <sup>1</sup>
<b>Positive Control High Concentration</b>	24-Mar-08	qPCR with cloned Dhc gene (9.13 x 10 <sup>7</sup> copies)	9.13 x 10 <sup>7</sup>	9.05 x 10 <sup>7</sup>	Normal <sup>1</sup>
<b>DNA Extraction Blank</b>	24-Mar-08	DNA extraction sterile water (DB-0737)	0	ND	Normal
<b>Negative Control</b>	24-Mar-08	Tris Reagent Blank	0	ND	Normal

**Notes:**

<sup>1</sup> Within defined limits of +/- 50%

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

NA = not applicable

ND = not detected

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid







# CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA RAYNHAM, MA  
 TEL: 508-898-9220 TEL: 508-822-9300  
 FAX: 508-898-9193 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: S-1251**Client Information**

Client: ERM  
 Address: 319 Bayboro St.  
Boston MA 02166  
 Phone: 617-646-7800  
 Fax: 617-267-6447  
 Email: Jason.Clafford@erm.com

 These samples have been previously analyzed by Alpha**Project Information**

Project Name: Raytheon Wayland  
 Project Location: Wayland MA  
 Project #: 0079387  
 Project Manager: S. Clafford  
 ALPHA Quote #:

**Turn-Around Time** Standard  RUSH (only confirmed if pre-approved!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

Other Project Specific Requirements/Comments/Detection Limits:

**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 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?

ANALYSIS	Gene Trace VC	TOTAL # BOTTLES
	Gene Trace D/E	

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time				
	<u>MW-552-20080306-01</u>	<u>3/6/08</u>	<u>1442</u>		<u>J J</u>		<u>1</u>
	<u>MW-553-20070306-01</u>	<u>↓</u>	<u>1641</u>		<u>X X</u>		<u>1</u>
	<u>DUP-001-20080306-01</u>	<u>↓</u>	<u>2400</u>		<u>X</u>		<u>1</u>

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP? \_\_\_\_\_

Relinquished By:	Date/Time:	Container Type: <u>P</u>	Preservative: <u>AX</u>
Received By: <u>J. Wilkerson</u>	Date/Time: <u>3/7/08 12:30</u>		

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.



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

Page: Page 1 of 5  
Lab Proj #: P0808310  
Report Date: 09/03/08  
Client Proj Name: Wayland  
Client Proj #: Wayland

### Laboratory Results

Total pages in data package: 6

<u>Lab Sample #</u>	<u>Client Sample ID</u>
P0808310-01	IW-5-20080825-04
P0808310-02	MW 560-20080825-04
P0808310-03	IW-2-20080825-04
P0808310-04	IW-8-20080825-04

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:** 9/3/08

**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 5  
Lab Proj #: P0808310  
Report Date: 09/03/08  
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>		
IW-5-20080825-04	Water	P0808310-01	25 Aug. 08 9:35	27 Aug. 08 10:55		
<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	0.560	0.025	ug/L	AM20GAX	9/2/08	rw
N Ethene	26.000	0.025	ug/L	AM20GAX	9/2/08	rw
N Methane	120.000	0.100	ug/L	AM20GAX	9/2/08	rw



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

Page: Page 3 of 5  
 Lab Proj #: P0808310  
 Report Date: 09/03/08  
 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 560-20080825-04	Water	P0808310-02	25 Aug. 08 11:40	27 Aug. 08 10:55		
<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	0.053	0.025	ug/L	AM20GAX	9/2/08	rw
N Ethene	0.630	0.025	ug/L	AM20GAX	9/2/08	rw
N Methane	34.000	0.100	ug/L	AM20GAX	9/2/08	rw



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

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Lab Proj #: P0808310  
Report Date: 09/03/08  
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>		
IW-2-20080825-04	Water	P0808310-03	25 Aug. 08 13:45	27 Aug. 08 10:55		
<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	0.270	0.025	ug/L	AM20GAX	9/2/08	rw
N Ethene	17.000	0.025	ug/L	AM20GAX	9/2/08	rw
N Methane	49.000	0.100	ug/L	AM20GAX	9/2/08	rw



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

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Lab Proj #: P0808310  
Report Date: 09/03/08  
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>		
IW-8-20080825-04	Water	P0808310-04	25 Aug. 08 15:20	27 Aug. 08 10:55		
<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	0.055	0.025	ug/L	AM20GAX	9/2/08	rw
N Ethene	1.000	0.025	ug/L	AM20GAX	9/2/08	rw
N Methane	41.000	0.100	ug/L	AM20GAX	9/2/08	rw





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

Page: Page 1 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
Client Proj Name: Wayland  
Client Proj #: Wayland

### Laboratory Results

Total pages in data package: \_\_\_\_\_

Lab Sample #	Client Sample ID		
P0803069-01	DEP-19M-20080306-0 1	P0803069-14	DUP-001-20080306-0 1
P0803069-02	MW-261S-20080306-0 1		
P0803069-03	MW-264M-20080306-01		
P0803069-04	MW-265M-20080306-01		
P0803069-05	MW-266MA-20080306-01		
P0803069-06	MW-266MB-20080306-01		
P0803069-07	MW-267S-20080306-01		
P0803069-08	MW-267M-20080306-01		
P0803069-09	MW-268M-20080306-01		
P0803069-10	MW-268D-20080306-01		
P0803069-11	MW-551-20080306-01		
P0803069-12	MW552-20080306-01		
P0803069-13	MW-553-20080306-01		

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

**Approved By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Project Manager:** Debbie Hallo

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 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-20080306-01	Water	P0803069-01	06 Mar. 08 16:15	07 Mar. 08 10:23		
<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	0.039	0.025	ug/L	AM20GAX	3/17/08	rw
N Ethene	0.130	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	0.480	0.100	ug/L	AM20GAX	3/17/08	rw



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

Page: Page 3 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-261S-20080306-01	Water	P0803069-02	06 Mar. 08 12:00	07 Mar. 08 10:23		
<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	3/17/08	rw
N Ethene	0.100	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	0.270	0.100	ug/L	AM20GAX	3/17/08	rw



Client Name: ERM  
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 6th Floor  
 Boston, MA 02116

Page: Page 4 of 15  
 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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-20080306-01	Water	P0803069-03	06 Mar. 08 14:45	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	rw
N Ethene	0.200	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	7.900	0.100	ug/L	AM20GAX	3/17/08	rw



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

Page: Page 5 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-265M-20080306-01	Water	P0803069-04	06 Mar. 08 9:45	07 Mar. 08 10:23		
<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	3/17/08	rw
N Ethene	1.800	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	4.700	0.100	ug/L	AM20GAX	3/17/08	rw



Client Name: ERM  
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6th Floor  
Boston, MA 02116

Page: Page 6 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-266MA-20080306-01	Water	P0803069-05	06 Mar. 08 13:45	07 Mar. 08 10:23		
<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	3/17/08	rw
N Ethene	0.034	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	19.000	0.100	ug/L	AM20GAX	3/17/08	rw



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

Page: Page 7 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-266MB-20080306-01	Water	P0803069-06	06 Mar. 08 15:25	07 Mar. 08 10:23		
<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	3/17/08	rw
N Ethene	0.370	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	4.500	0.100	ug/L	AM20GAX	3/17/08	rw



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

Page: Page 8 of 15  
 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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-267S-20080306-01	Water	P0803069-07	06 Mar. 08 10:00	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	rw
N Ethene	0.680	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	440.000	0.100	ug/L	AM20GAX	3/17/08	rw

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

Page: Page 9 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-267M-20080306-01	Water	P0803069-08	06 Mar. 08 11:20	07 Mar. 08 10:23		
<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	0.028	0.025	ug/L	AM20GAX	3/17/08	rw
N Ethene	0.490	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	59.000	0.100	ug/L	AM20GAX	3/17/08	rw





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

Page: Page 10 of 15  
 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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-268M-20080306-01	Water	P0803069-09	06 Mar. 08 11:45	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	rw
N Ethene	1.800	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	37.000	0.100	ug/L	AM20GAX	3/17/08	rw



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

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 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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-268D-20080306-01	Water	P0803069-10	06 Mar. 08 12:30	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	rw
N Ethene	<0.025	0.025	ug/L	AM20GAX	3/17/08	rw
N Methane	23.000	0.100	ug/L	AM20GAX	3/17/08	rw



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

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 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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-551-20080306-01	Water	P0803069-11	06 Mar. 08 16:30	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	mm
N Ethene	<0.025	0.025	ug/L	AM20GAX	3/17/08	mm
N Methane	1.600	0.100	ug/L	AM20GAX	3/17/08	mm



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

Page: Page 13 of 15  
 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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>		
MW552-20080306-01	Water	P0803069-12	06 Mar. 08 14:42	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	mm
N Ethene	0.300	0.025	ug/L	AM20GAX	3/17/08	mm
N Methane	27.000	0.100	ug/L	AM20GAX	3/17/08	mm



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

Page: Page 14 of 15  
Lab Proj #: P0803069  
Report Date: 03/18/08  
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-553-20080306-01	Water	P0803069-13	06 Mar. 08 16:41	07 Mar. 08 10:23		
<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	3/17/08	mm
N Ethene	0.170	0.025	ug/L	AM20GAX	3/17/08	mm
N Methane	0.940	0.100	ug/L	AM20GAX	3/17/08	mm



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

Page: Page 15 of 15  
 Lab Proj #: P0803069  
 Report Date: 03/18/08  
 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>		
DUP-001-20080306-01	Water	P0803069-14	06 Mar. 08 0:00	07 Mar. 08 10:23		
<u>Analyte(s)</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Method #</u>	<u>Analysis Date</u>	<u>By</u>
<b><u>RiskAnalysis</u></b>						
N Ethane	<0.025	0.025	ug/L	AM20GAX	3/17/08	mm
N Ethene	1.600	0.025	ug/L	AM20GAX	3/17/08	mm
N Methane	32.000	0.100	ug/L	AM20GAX	3/17/08	mm





## ANALYTICAL REPORT

Lab Number: L0815550

Client: ERM Consulting & Engineering, Inc.  
399 Boylston Street  
6th Floor  
Boston, MA 02116

ATTN: Bahaar Massihzadegan

Project Name: RAYTHEON-WAYLAND

Project Number: 0079387

Report Date: 10/27/08

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:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>
L0815550-01	IW-2-20081020-01	WAYLAND, MA
L0815550-02	DUP-001-20081020-01	WAYLAND, MA
L0815550-03	IW-5-20081021-01	WAYLAND, MA
L0815550-04	IW-8-20081021-01	WAYLAND, MA
L0815550-05	MW-560-20081021-01	WAYLAND, MA
L0815550-06	MW-268D-20081020-01	WAYLAND, MA
L0815550-07	MW-267S-20081020-01	WAYLAND, MA
L0815550-08	MW-268M-20081020-01	WAYLAND, MA
L0815550-09	MW-265M-20081020-01	WAYLAND, MA
L0815550-10	MW-266MB-20081020-01	WAYLAND, MA
L0815550-11	MW-266MA-20081020-01	WAYLAND, MA
L0815550-12	MW-267M-20081021-01	WAYLAND, MA
L0815550-13	DUP-003-20081021-01	WAYLAND, MA
L0815550-14	MW-553-20081020-01	WAYLAND, MA
L0815550-15	MW-552-20081020-01	WAYLAND, MA
L0815550-16	MW-261S-20081020-01	WAYLAND, MA
L0815550-17	MW-551-20081021-01	WAYLAND, MA
L0815550-18	DUP-002-20081021-01	WAYLAND, MA



Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

### 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:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

### 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

##### Volatile Organics

L0815550-01, -02, -07 through -10, and -12 through -16 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

In reference to question E:

The WG341174-1/-2 LCS/LCSD recoveries associated with L0815550-01, -02, and -03 are above the acceptance criteria for Dichlorodifluoromethane (135%/132%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for this compound.

The WG341174-7/-8 MS/MSD recoveries associated with L0815550-01 were below the acceptance criteria for Vinyl chloride (61%/58%); however, the associated LCS/LCSD recoveries were within criteria. The results of the

**Project Name:** RAYTHEON-WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

**Case Narrative (continued)**

sample utilized for the MS/MSD are considered to have a potentially low bias for this compound.

In reference to question F:

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:



Title: Technical Director/Representative

Date: 10/27/08

# ORGANICS

# VOLATILES

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-01  
 Client ID: IW-2-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 19:57  
 Analyst: PD

Date Collected: 10/20/08 14:50  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	62	12.5
1,1-Dichloroethane	ND		ug/l	9.4	12.5
Chloroform	ND		ug/l	9.4	12.5
Carbon tetrachloride	ND		ug/l	6.2	12.5
1,2-Dichloropropane	ND		ug/l	22	12.5
Dibromochloromethane	ND		ug/l	6.2	12.5
1,1,2-Trichloroethane	ND		ug/l	9.4	12.5
Tetrachloroethene	ND		ug/l	6.2	12.5
Chlorobenzene	ND		ug/l	6.2	12.5
1,2-Dichloroethane	ND		ug/l	6.2	12.5
1,1,1-Trichloroethane	ND		ug/l	6.2	12.5
Bromodichloromethane	ND		ug/l	6.2	12.5
trans-1,3-Dichloropropene	ND		ug/l	6.2	12.5
cis-1,3-Dichloropropene	ND		ug/l	6.2	12.5
Bromoform	ND		ug/l	25	12.5
1,1,2,2-Tetrachloroethane	ND		ug/l	6.2	12.5
Chloromethane	ND		ug/l	31	12.5
Vinyl chloride	130		ug/l	12	12.5
Chloroethane	ND		ug/l	12	12.5
1,1-Dichloroethene	ND		ug/l	6.2	12.5
trans-1,2-Dichloroethene	ND		ug/l	9.4	12.5
Trichloroethene	39		ug/l	6.2	12.5
1,2-Dichlorobenzene	ND		ug/l	31	12.5
1,3-Dichlorobenzene	ND		ug/l	31	12.5
1,4-Dichlorobenzene	ND		ug/l	31	12.5
cis-1,2-Dichloroethene	480		ug/l	6.2	12.5
Dichlorodifluoromethane	ND		ug/l	62	12.5
1,2-Dibromoethane	ND		ug/l	25	12.5
1,3-Dichloropropane	ND		ug/l	31	12.5
1,1,1,2-Tetrachloroethane	ND		ug/l	6.2	12.5

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-01  
 Client ID: IW-2-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 14:50  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	31	12.5
p-Chlorotoluene	ND		ug/l	31	12.5
Hexachlorobutadiene	ND		ug/l	7.5	12.5
1,2,4-Trichlorobenzene	ND		ug/l	31	12.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	111		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-02  
 Client ID: DUP-001-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 20:30  
 Analyst: PD

Date Collected: 10/20/08 11:11  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	62	12.5
1,1-Dichloroethane	ND		ug/l	9.4	12.5
Chloroform	ND		ug/l	9.4	12.5
Carbon tetrachloride	ND		ug/l	6.2	12.5
1,2-Dichloropropane	ND		ug/l	22	12.5
Dibromochloromethane	ND		ug/l	6.2	12.5
1,1,2-Trichloroethane	ND		ug/l	9.4	12.5
Tetrachloroethene	6.8		ug/l	6.2	12.5
Chlorobenzene	ND		ug/l	6.2	12.5
1,2-Dichloroethane	ND		ug/l	6.2	12.5
1,1,1-Trichloroethane	ND		ug/l	6.2	12.5
Bromodichloromethane	ND		ug/l	6.2	12.5
trans-1,3-Dichloropropene	ND		ug/l	6.2	12.5
cis-1,3-Dichloropropene	ND		ug/l	6.2	12.5
Bromoform	ND		ug/l	25	12.5
1,1,2,2-Tetrachloroethane	ND		ug/l	6.2	12.5
Chloromethane	ND		ug/l	31	12.5
Vinyl chloride	130		ug/l	12	12.5
Chloroethane	ND		ug/l	12	12.5
1,1-Dichloroethene	ND		ug/l	6.2	12.5
trans-1,2-Dichloroethene	ND		ug/l	9.4	12.5
Trichloroethene	42		ug/l	6.2	12.5
1,2-Dichlorobenzene	ND		ug/l	31	12.5
1,3-Dichlorobenzene	ND		ug/l	31	12.5
1,4-Dichlorobenzene	ND		ug/l	31	12.5
cis-1,2-Dichloroethene	490		ug/l	6.2	12.5
Dichlorodifluoromethane	ND		ug/l	62	12.5
1,2-Dibromoethane	ND		ug/l	25	12.5
1,3-Dichloropropane	ND		ug/l	31	12.5
1,1,1,2-Tetrachloroethane	ND		ug/l	6.2	12.5



**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-02  
 Client ID: DUP-001-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 11:11  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	31	12.5
p-Chlorotoluene	ND		ug/l	31	12.5
Hexachlorobutadiene	ND		ug/l	7.5	12.5
1,2,4-Trichlorobenzene	ND		ug/l	31	12.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	105		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-03  
 Client ID: IW-5-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 21:04  
 Analyst: PD

Date Collected: 10/21/08 08:35  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	1.0		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	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	32		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	15		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:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-03  
 Client ID: IW-5-20081021-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/21/08 08:35  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	110		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	109		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-04  
 Client ID: IW-8-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 13:03  
 Analyst: GK

Date Collected: 10/21/08 09:55  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	1.6		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	0.57		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:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-04  
 Client ID: IW-8-20081021-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/21/08 09:55  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	107		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	110		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-05  
 Client ID: MW-560-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 13:36  
 Analyst: GK

Date Collected: 10/21/08 12:30  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	0.75		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	5.1		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	12		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	4.4		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:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-05  
 Client ID: MW-560-20081021-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/21/08 12:30  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	104		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	102		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-06  
 Client ID: MW-268D-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 14:09  
 Analyst: GK

Date Collected: 10/20/08 12:15  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	5.8		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	6.3		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:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-06

Date Collected: 10/20/08 12:15

Client ID: MW-268D-20081020-01

Date Received: 10/21/08

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	104		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-07  
 Client ID: MW-267S-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 14:42  
 Analyst: GK

Date Collected: 10/20/08 14:25  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	62	12.5
1,1-Dichloroethane	ND		ug/l	9.4	12.5
Chloroform	ND		ug/l	9.4	12.5
Carbon tetrachloride	ND		ug/l	6.2	12.5
1,2-Dichloropropane	ND		ug/l	22	12.5
Dibromochloromethane	ND		ug/l	6.2	12.5
1,1,2-Trichloroethane	ND		ug/l	9.4	12.5
Tetrachloroethene	10		ug/l	6.2	12.5
Chlorobenzene	ND		ug/l	6.2	12.5
1,2-Dichloroethane	ND		ug/l	6.2	12.5
1,1,1-Trichloroethane	ND		ug/l	6.2	12.5
Bromodichloromethane	ND		ug/l	6.2	12.5
trans-1,3-Dichloropropene	ND		ug/l	6.2	12.5
cis-1,3-Dichloropropene	ND		ug/l	6.2	12.5
Bromoform	ND		ug/l	25	12.5
1,1,2,2-Tetrachloroethane	ND		ug/l	6.2	12.5
Chloromethane	ND		ug/l	31	12.5
Vinyl chloride	ND		ug/l	12	12.5
Chloroethane	ND		ug/l	12	12.5
1,1-Dichloroethene	ND		ug/l	6.2	12.5
trans-1,2-Dichloroethene	ND		ug/l	9.4	12.5
Trichloroethene	430		ug/l	6.2	12.5
1,2-Dichlorobenzene	ND		ug/l	31	12.5
1,3-Dichlorobenzene	ND		ug/l	31	12.5
1,4-Dichlorobenzene	ND		ug/l	31	12.5
cis-1,2-Dichloroethene	67		ug/l	6.2	12.5
Dichlorodifluoromethane	ND		ug/l	62	12.5
1,2-Dibromoethane	ND		ug/l	25	12.5
1,3-Dichloropropane	ND		ug/l	31	12.5
1,1,1,2-Tetrachloroethane	ND		ug/l	6.2	12.5

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-07  
 Client ID: MW-267S-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 14:25  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	31	12.5
p-Chlorotoluene	ND		ug/l	31	12.5
Hexachlorobutadiene	ND		ug/l	7.5	12.5
1,2,4-Trichlorobenzene	ND		ug/l	31	12.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	107		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-08  
 Client ID: MW-268M-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 15:15  
 Analyst: GK

Date Collected: 10/20/08 13:10  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	500	100
1,1-Dichloroethane	ND		ug/l	75	100
Chloroform	ND		ug/l	75	100
Carbon tetrachloride	ND		ug/l	50	100
1,2-Dichloropropane	ND		ug/l	180	100
Dibromochloromethane	ND		ug/l	50	100
1,1,2-Trichloroethane	ND		ug/l	75	100
Tetrachloroethene	ND		ug/l	50	100
Chlorobenzene	ND		ug/l	50	100
1,2-Dichloroethane	ND		ug/l	50	100
1,1,1-Trichloroethane	ND		ug/l	50	100
Bromodichloromethane	ND		ug/l	50	100
trans-1,3-Dichloropropene	ND		ug/l	50	100
cis-1,3-Dichloropropene	ND		ug/l	50	100
Bromoform	ND		ug/l	200	100
1,1,2,2-Tetrachloroethane	ND		ug/l	50	100
Chloromethane	ND		ug/l	250	100
Vinyl chloride	ND		ug/l	100	100
Chloroethane	ND		ug/l	100	100
1,1-Dichloroethene	ND		ug/l	50	100
trans-1,2-Dichloroethene	ND		ug/l	75	100
Trichloroethene	1500		ug/l	50	100
1,2-Dichlorobenzene	ND		ug/l	250	100
1,3-Dichlorobenzene	ND		ug/l	250	100
1,4-Dichlorobenzene	ND		ug/l	250	100
cis-1,2-Dichloroethene	2600		ug/l	50	100
Dichlorodifluoromethane	ND		ug/l	500	100
1,2-Dibromoethane	ND		ug/l	200	100
1,3-Dichloropropane	ND		ug/l	250	100
1,1,1,2-Tetrachloroethane	ND		ug/l	50	100

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-08

Date Collected: 10/20/08 13:10

Client ID: MW-268M-20081020-01

Date Received: 10/21/08

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	250	100
p-Chlorotoluene	ND		ug/l	250	100
Hexachlorobutadiene	ND		ug/l	60	100
1,2,4-Trichlorobenzene	ND		ug/l	250	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	107		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-09  
 Client ID: MW-265M-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 15:49  
 Analyst: GK

Date Collected: 10/20/08 12:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	62	12.5
1,1-Dichloroethane	ND		ug/l	9.4	12.5
Chloroform	ND		ug/l	9.4	12.5
Carbon tetrachloride	ND		ug/l	6.2	12.5
1,2-Dichloropropane	ND		ug/l	22	12.5
Dibromochloromethane	ND		ug/l	6.2	12.5
1,1,2-Trichloroethane	ND		ug/l	9.4	12.5
Tetrachloroethene	41		ug/l	6.2	12.5
Chlorobenzene	ND		ug/l	6.2	12.5
1,2-Dichloroethane	ND		ug/l	6.2	12.5
1,1,1-Trichloroethane	ND		ug/l	6.2	12.5
Bromodichloromethane	ND		ug/l	6.2	12.5
trans-1,3-Dichloropropene	ND		ug/l	6.2	12.5
cis-1,3-Dichloropropene	ND		ug/l	6.2	12.5
Bromoform	ND		ug/l	25	12.5
1,1,2,2-Tetrachloroethane	ND		ug/l	6.2	12.5
Chloromethane	ND		ug/l	31	12.5
Vinyl chloride	32		ug/l	12	12.5
Chloroethane	ND		ug/l	12	12.5
1,1-Dichloroethene	ND		ug/l	6.2	12.5
trans-1,2-Dichloroethene	ND		ug/l	9.4	12.5
Trichloroethene	440		ug/l	6.2	12.5
1,2-Dichlorobenzene	ND		ug/l	31	12.5
1,3-Dichlorobenzene	ND		ug/l	31	12.5
1,4-Dichlorobenzene	ND		ug/l	31	12.5
cis-1,2-Dichloroethene	290		ug/l	6.2	12.5
Dichlorodifluoromethane	ND		ug/l	62	12.5
1,2-Dibromoethane	ND		ug/l	25	12.5
1,3-Dichloropropane	ND		ug/l	31	12.5
1,1,1,2-Tetrachloroethane	ND		ug/l	6.2	12.5

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-09  
 Client ID: MW-265M-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 12:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	31	12.5
p-Chlorotoluene	ND		ug/l	31	12.5
Hexachlorobutadiene	ND		ug/l	7.5	12.5
1,2,4-Trichlorobenzene	ND		ug/l	31	12.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	107		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-10  
 Client ID: MW-266MB-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 16:22  
 Analyst: GK

Date Collected: 10/20/08 14:05  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	50	10
1,1-Dichloroethane	ND		ug/l	7.5	10
Chloroform	ND		ug/l	7.5	10
Carbon tetrachloride	ND		ug/l	5.0	10
1,2-Dichloropropane	ND		ug/l	18	10
Dibromochloromethane	ND		ug/l	5.0	10
1,1,2-Trichloroethane	ND		ug/l	7.5	10
Tetrachloroethene	26		ug/l	5.0	10
Chlorobenzene	ND		ug/l	5.0	10
1,2-Dichloroethane	ND		ug/l	5.0	10
1,1,1-Trichloroethane	ND		ug/l	5.0	10
Bromodichloromethane	ND		ug/l	5.0	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	10
Bromoform	ND		ug/l	20	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	10
Chloromethane	ND		ug/l	25	10
Vinyl chloride	38		ug/l	10	10
Chloroethane	ND		ug/l	10	10
1,1-Dichloroethene	ND		ug/l	5.0	10
trans-1,2-Dichloroethene	ND		ug/l	7.5	10
Trichloroethene	130		ug/l	5.0	10
1,2-Dichlorobenzene	ND		ug/l	25	10
1,3-Dichlorobenzene	ND		ug/l	25	10
1,4-Dichlorobenzene	ND		ug/l	25	10
cis-1,2-Dichloroethene	310		ug/l	5.0	10
Dichlorodifluoromethane	ND		ug/l	50	10
1,2-Dibromoethane	ND		ug/l	20	10
1,3-Dichloropropane	ND		ug/l	25	10
1,1,1,2-Tetrachloroethane	ND		ug/l	5.0	10



**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-10  
 Client ID: MW-266MB-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 14:05  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	25	10
p-Chlorotoluene	ND		ug/l	25	10
Hexachlorobutadiene	ND		ug/l	6.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	108		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-11  
 Client ID: MW-266MA-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 16:55  
 Analyst: GK

Date Collected: 10/20/08 14:50  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	1.2		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	22		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	8.2		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:** L0815550

**Project Number:** 0079387

**Report Date:** 10/27/08

**SAMPLE RESULTS**

Lab ID: L0815550-11  
 Client ID: MW-266MA-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 14:50  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	106		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	106		70-130



Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-12  
 Client ID: MW-267M-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 17:28  
 Analyst: GK

Date Collected: 10/21/08 08:05  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	100	20
1,1-Dichloroethane	ND		ug/l	15	20
Chloroform	ND		ug/l	15	20
Carbon tetrachloride	ND		ug/l	10	20
1,2-Dichloropropane	ND		ug/l	35	20
Dibromochloromethane	ND		ug/l	10	20
1,1,2-Trichloroethane	ND		ug/l	15	20
Tetrachloroethene	36		ug/l	10	20
Chlorobenzene	ND		ug/l	10	20
1,2-Dichloroethane	ND		ug/l	10	20
1,1,1-Trichloroethane	ND		ug/l	10	20
Bromodichloromethane	ND		ug/l	10	20
trans-1,3-Dichloropropene	ND		ug/l	10	20
cis-1,3-Dichloropropene	ND		ug/l	10	20
Bromoform	ND		ug/l	40	20
1,1,2,2-Tetrachloroethane	ND		ug/l	10	20
Chloromethane	ND		ug/l	50	20
Vinyl chloride	24		ug/l	20	20
Chloroethane	ND		ug/l	20	20
1,1-Dichloroethene	ND		ug/l	10	20
trans-1,2-Dichloroethene	ND		ug/l	15	20
Trichloroethene	620		ug/l	10	20
1,2-Dichlorobenzene	ND		ug/l	50	20
1,3-Dichlorobenzene	ND		ug/l	50	20
1,4-Dichlorobenzene	ND		ug/l	50	20
cis-1,2-Dichloroethene	570		ug/l	10	20
Dichlorodifluoromethane	ND		ug/l	100	20
1,2-Dibromoethane	ND		ug/l	40	20
1,3-Dichloropropane	ND		ug/l	50	20
1,1,1,2-Tetrachloroethane	ND		ug/l	10	20

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-12

Date Collected: 10/21/08 08:05

Client ID: MW-267M-20081021-01

Date Received: 10/21/08

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	50	20
p-Chlorotoluene	ND		ug/l	50	20
Hexachlorobutadiene	ND		ug/l	12	20
1,2,4-Trichlorobenzene	ND		ug/l	50	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	108		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-13  
 Client ID: DUP-003-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 18:01  
 Analyst: GK

Date Collected: 10/21/08 07:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	100	20
1,1-Dichloroethane	ND		ug/l	15	20
Chloroform	ND		ug/l	15	20
Carbon tetrachloride	ND		ug/l	10	20
1,2-Dichloropropane	ND		ug/l	35	20
Dibromochloromethane	ND		ug/l	10	20
1,1,2-Trichloroethane	ND		ug/l	15	20
Tetrachloroethene	36		ug/l	10	20
Chlorobenzene	ND		ug/l	10	20
1,2-Dichloroethane	ND		ug/l	10	20
1,1,1-Trichloroethane	ND		ug/l	10	20
Bromodichloromethane	ND		ug/l	10	20
trans-1,3-Dichloropropene	ND		ug/l	10	20
cis-1,3-Dichloropropene	ND		ug/l	10	20
Bromoform	ND		ug/l	40	20
1,1,2,2-Tetrachloroethane	ND		ug/l	10	20
Chloromethane	ND		ug/l	50	20
Vinyl chloride	24		ug/l	20	20
Chloroethane	ND		ug/l	20	20
1,1-Dichloroethene	ND		ug/l	10	20
trans-1,2-Dichloroethene	ND		ug/l	15	20
Trichloroethene	600		ug/l	10	20
1,2-Dichlorobenzene	ND		ug/l	50	20
1,3-Dichlorobenzene	ND		ug/l	50	20
1,4-Dichlorobenzene	ND		ug/l	50	20
cis-1,2-Dichloroethene	540		ug/l	10	20
Dichlorodifluoromethane	ND		ug/l	100	20
1,2-Dibromoethane	ND		ug/l	40	20
1,3-Dichloropropane	ND		ug/l	50	20
1,1,1,2-Tetrachloroethane	ND		ug/l	10	20

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-13  
 Client ID: DUP-003-20081021-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/21/08 07:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	50	20
p-Chlorotoluene	ND		ug/l	50	20
Hexachlorobutadiene	ND		ug/l	12	20
1,2,4-Trichlorobenzene	ND		ug/l	50	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	107		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-14  
 Client ID: MW-553-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 18:34  
 Analyst: GK

Date Collected: 10/20/08 12:40  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	50	10
1,1-Dichloroethane	ND		ug/l	7.5	10
Chloroform	ND		ug/l	7.5	10
Carbon tetrachloride	ND		ug/l	5.0	10
1,2-Dichloropropane	ND		ug/l	18	10
Dibromochloromethane	ND		ug/l	5.0	10
1,1,2-Trichloroethane	ND		ug/l	7.5	10
Tetrachloroethene	30		ug/l	5.0	10
Chlorobenzene	ND		ug/l	5.0	10
1,2-Dichloroethane	ND		ug/l	5.0	10
1,1,1-Trichloroethane	ND		ug/l	5.0	10
Bromodichloromethane	ND		ug/l	5.0	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	10
Bromoform	ND		ug/l	20	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	10
Chloromethane	ND		ug/l	25	10
Vinyl chloride	ND		ug/l	10	10
Chloroethane	ND		ug/l	10	10
1,1-Dichloroethene	ND		ug/l	5.0	10
trans-1,2-Dichloroethene	ND		ug/l	7.5	10
Trichloroethene	320		ug/l	5.0	10
1,2-Dichlorobenzene	ND		ug/l	25	10
1,3-Dichlorobenzene	ND		ug/l	25	10
1,4-Dichlorobenzene	ND		ug/l	25	10
cis-1,2-Dichloroethene	49		ug/l	5.0	10
Dichlorodifluoromethane	ND		ug/l	50	10
1,2-Dibromoethane	ND		ug/l	20	10
1,3-Dichloropropane	ND		ug/l	25	10
1,1,1,2-Tetrachloroethane	ND		ug/l	5.0	10



**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-14  
 Client ID: MW-553-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 12:40  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	25	10
p-Chlorotoluene	ND		ug/l	25	10
Hexachlorobutadiene	ND		ug/l	6.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	106		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-15  
 Client ID: MW-552-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 19:08  
 Analyst: GK

Date Collected: 10/20/08 13:35  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	500	100
1,1-Dichloroethane	ND		ug/l	75	100
Chloroform	ND		ug/l	75	100
Carbon tetrachloride	ND		ug/l	50	100
1,2-Dichloropropane	ND		ug/l	180	100
Dibromochloromethane	ND		ug/l	50	100
1,1,2-Trichloroethane	ND		ug/l	75	100
Tetrachloroethene	320		ug/l	50	100
Chlorobenzene	ND		ug/l	50	100
1,2-Dichloroethane	ND		ug/l	50	100
1,1,1-Trichloroethane	ND		ug/l	50	100
Bromodichloromethane	ND		ug/l	50	100
trans-1,3-Dichloropropene	ND		ug/l	50	100
cis-1,3-Dichloropropene	ND		ug/l	50	100
Bromoform	ND		ug/l	200	100
1,1,2,2-Tetrachloroethane	ND		ug/l	50	100
Chloromethane	ND		ug/l	250	100
Vinyl chloride	ND		ug/l	100	100
Chloroethane	ND		ug/l	100	100
1,1-Dichloroethene	ND		ug/l	50	100
trans-1,2-Dichloroethene	ND		ug/l	75	100
Trichloroethene	5400		ug/l	50	100
1,2-Dichlorobenzene	ND		ug/l	250	100
1,3-Dichlorobenzene	ND		ug/l	250	100
1,4-Dichlorobenzene	ND		ug/l	250	100
cis-1,2-Dichloroethene	400		ug/l	50	100
Dichlorodifluoromethane	ND		ug/l	500	100
1,2-Dibromoethane	ND		ug/l	200	100
1,3-Dichloropropane	ND		ug/l	250	100
1,1,1,2-Tetrachloroethane	ND		ug/l	50	100

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-15  
 Client ID: MW-552-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 13:35  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	250	100
p-Chlorotoluene	ND		ug/l	250	100
Hexachlorobutadiene	ND		ug/l	60	100
1,2,4-Trichlorobenzene	ND		ug/l	250	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	109		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-16  
 Client ID: MW-261S-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 19:41  
 Analyst: GK

Date Collected: 10/20/08 14:20  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	250	50
1,1-Dichloroethane	ND		ug/l	38	50
Chloroform	ND		ug/l	38	50
Carbon tetrachloride	ND		ug/l	25	50
1,2-Dichloropropane	ND		ug/l	88	50
Dibromochloromethane	ND		ug/l	25	50
1,1,2-Trichloroethane	ND		ug/l	38	50
Tetrachloroethene	54		ug/l	25	50
Chlorobenzene	ND		ug/l	25	50
1,2-Dichloroethane	ND		ug/l	25	50
1,1,1-Trichloroethane	ND		ug/l	25	50
Bromodichloromethane	ND		ug/l	25	50
trans-1,3-Dichloropropene	ND		ug/l	25	50
cis-1,3-Dichloropropene	ND		ug/l	25	50
Bromoform	ND		ug/l	100	50
1,1,2,2-Tetrachloroethane	ND		ug/l	25	50
Chloromethane	ND		ug/l	120	50
Vinyl chloride	ND		ug/l	50	50
Chloroethane	ND		ug/l	50	50
1,1-Dichloroethene	ND		ug/l	25	50
trans-1,2-Dichloroethene	ND		ug/l	38	50
Trichloroethene	2200		ug/l	25	50
1,2-Dichlorobenzene	ND		ug/l	120	50
1,3-Dichlorobenzene	ND		ug/l	120	50
1,4-Dichlorobenzene	ND		ug/l	120	50
cis-1,2-Dichloroethene	67		ug/l	25	50
Dichlorodifluoromethane	ND		ug/l	250	50
1,2-Dibromoethane	ND		ug/l	100	50
1,3-Dichloropropane	ND		ug/l	120	50
1,1,1,2-Tetrachloroethane	ND		ug/l	25	50

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-16  
 Client ID: MW-261S-20081020-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/20/08 14:20  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	120	50
p-Chlorotoluene	ND		ug/l	120	50
Hexachlorobutadiene	ND		ug/l	30	50
1,2,4-Trichlorobenzene	ND		ug/l	120	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	108		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## SAMPLE RESULTS

Lab ID: L0815550-17  
 Client ID: MW-551-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 20:14  
 Analyst: GK

Date Collected: 10/21/08 09:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	27		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	ND		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:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-17  
 Client ID: MW-551-20081021-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/21/08 09:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	109		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	108		70-130

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-18  
 Client ID: DUP-002-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 20:47  
 Analyst: GK

Date Collected: 10/21/08 00:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	28		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	ND		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:** L0815550**Project Number:** 0079387**Report Date:** 10/27/08**SAMPLE RESULTS**

Lab ID: L0815550-18  
 Client ID: DUP-002-20081021-01  
 Sample Location: WAYLAND, MA

Date Collected: 10/21/08 00:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	106		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	109		70-130

**Project Name:** RAYTHEON-WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

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

Analytical Method: 60,8260B  
Analytical Date: 10/23/08 12:13  
Analyst: PD

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01-03 Batch: WG341174-3				

Parameter	Result	Qualifier	Units	RDL
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

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 12:13  
 Analyst: PD

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01-03 Batch: WG341174-3				

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	104		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	106		70-130

**Project Name:** RAYTHEON-WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

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

Analytical Method: 60,8260B  
Analytical Date: 10/23/08 12:29  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 04-18 Batch: WG341177-3				

Parameter	Result	Qualifier	Units	RDL
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:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

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

Analytical Method: 60,8260B  
Analytical Date: 10/23/08 12:29  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 04-18 Batch: WG341177-3				

Parameter	Result	Qualifier	Units	RDL
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:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

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

Analytical Method: 60,8260B  
Analytical Date: 10/23/08 12:29  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 04-18 Batch: WG341177-3				

Parameter	Result	Qualifier	Units	RDL
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	105		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	110		70-130

## Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01-03 Batch: WG341174-1 WG341174-2					
Methylene chloride	99	96	70-130	3	25
1,1-Dichloroethane	90	88	70-130	2	25
Chloroform	99	100	70-130	1	25
Carbon tetrachloride	81	82	70-130	1	25
1,2-Dichloropropane	86	88	70-130	2	25
Dibromochloromethane	89	89	70-130	0	25
1,1,2-Trichloroethane	88	90	70-130	2	25
Tetrachloroethene	92	90	70-130	2	25
Chlorobenzene	91	91	70-130	0	25
1,2-Dichloroethane	96	99	70-130	3	25
1,1,1-Trichloroethane	87	89	70-130	2	25
Bromodichloromethane	90	92	70-130	2	25
trans-1,3-Dichloropropene	82	83	70-130	1	25
cis-1,3-Dichloropropene	85	88	70-130	3	25
Bromoform	84	86	70-130	2	50
1,1,2,2-Tetrachloroethane	84	85	70-130	1	25
Chloromethane	91	87	70-130	4	50
Vinyl chloride	97	93	70-130	4	25
Chloroethane	89	88	70-130	1	25
1,1-Dichloroethene	97	92	70-130	5	25
trans-1,2-Dichloroethene	91	91	70-130	0	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0815550

**Project Number:** 0079387

**Report Date:** 10/27/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01-03 Batch: WG341174-1 WG341174-2					
Trichloroethene	92	92	70-130	0	25
1,2-Dichlorobenzene	90	91	70-130	1	25
1,3-Dichlorobenzene	94	96	70-130	2	25
1,4-Dichlorobenzene	93	94	70-130	1	25
cis-1,2-Dichloroethene	88	87	70-130	1	25
Dichlorodifluoromethane	135	132	70-130	2	50
1,2-Dibromoethane	93	91	70-130	2	25
1,3-Dichloropropane	89	89	70-130	0	25
1,1,1,2-Tetrachloroethane	90	90	70-130	0	25
o-Chlorotoluene	83	84	70-130	1	25
p-Chlorotoluene	85	86	70-130	1	25
Hexachlorobutadiene	84	94	70-130	11	25
1,2,4-Trichlorobenzene	87	92	70-130	6	25

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		106		70-130
Toluene-d8	95		94		70-130
4-Bromofluorobenzene	90		89		70-130
Dibromofluoromethane	110		109		70-130



## Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 04-18 Batch: WG341177-1 WG341177-2					
Methylene chloride	72	83	70-130	14	25
1,1-Dichloroethane	85	96	70-130	12	25
Chloroform	81	93	70-130	14	25
Carbon tetrachloride	81	90	70-130	11	25
1,2-Dichloropropane	82	94	70-130	14	25
Dibromochloromethane	80	94	70-130	16	25
1,1,2-Trichloroethane	84	96	70-130	13	25
Tetrachloroethene	93	101	70-130	8	25
Chlorobenzene	87	98	70-130	12	25
Trichlorofluoromethane	120	130	70-130	8	25
1,2-Dichloroethane	91	103	70-130	12	25
1,1,1-Trichloroethane	87	97	70-130	11	25
Bromodichloromethane	84	96	70-130	13	25
trans-1,3-Dichloropropene	79	87	70-130	10	25
cis-1,3-Dichloropropene	80	93	70-130	15	25
1,1-Dichloropropene	84	92	70-130	9	25
Bromoform	76	87	70-130	13	50
1,1,2,2-Tetrachloroethane	80	91	70-130	13	25
Benzene	83	93	70-130	11	25
Toluene	83	94	70-130	12	25
Ethylbenzene	85	98	70-130	14	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0815550

**Project Number:** 0079387

**Report Date:** 10/27/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 04-18 Batch: WG341177-1 WG341177-2					
Chloromethane	90	102	70-130	13	50
Bromomethane	58	85	70-130	38	50
Vinyl chloride	89	98	70-130	10	25
Chloroethane	85	91	70-130	7	25
1,1-Dichloroethene	90	101	70-130	12	25
trans-1,2-Dichloroethene	88	99	70-130	12	25
Trichloroethene	89	101	70-130	13	25
1,2-Dichlorobenzene	85	94	70-130	10	25
1,3-Dichlorobenzene	87	100	70-130	14	25
1,4-Dichlorobenzene	85	97	70-130	13	25
Methyl tert butyl ether	92	103	70-130	11	25
p/m-Xylene	88	102	70-130	15	25
o-Xylene	88	100	70-130	13	25
cis-1,2-Dichloroethene	83	93	70-130	11	25
Dibromomethane	94	104	70-130	10	25
1,2,3-Trichloropropane	90	103	70-130	13	25
Styrene	87	100	70-130	14	25
Dichlorodifluoromethane	111	118	70-130	6	50
Acetone	101	126	70-130	22	50
Carbon disulfide	85	93	70-130	9	50
2-Butanone	92	105	70-130	13	50

## Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 04-18 Batch: WG341177-1 WG341177-2					
4-Methyl-2-pentanone	90	100	70-130	11	50
2-Hexanone	77	91	70-130	17	50
Bromochloromethane	97	110	70-130	13	25
Tetrahydrofuran	88	101	70-130	14	25
2,2-Dichloropropane	85	93	70-130	9	50
1,2-Dibromoethane	86	98	70-130	13	25
1,3-Dichloropropane	83	94	70-130	12	25
1,1,1,2-Tetrachloroethane	83	97	70-130	16	25
Bromobenzene	89	98	70-130	10	25
n-Butylbenzene	75	85	70-130	13	25
sec-Butylbenzene	80	91	70-130	13	25
tert-Butylbenzene	83	93	70-130	11	25
o-Chlorotoluene	79	88	70-130	11	25
p-Chlorotoluene	80	90	70-130	12	25
1,2-Dibromo-3-chloropropane	75	87	70-130	15	50
Hexachlorobutadiene	83	92	70-130	10	25
Isopropylbenzene	87	99	70-130	13	25
p-Isopropyltoluene	84	96	70-130	13	25
Naphthalene	71	84	70-130	17	25
n-Propylbenzene	80	90	70-130	12	25
1,2,3-Trichlorobenzene	84	96	70-130	13	25

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0815550

**Project Number:** 0079387

**Report Date:** 10/27/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 04-18 Batch: WG341177-1 WG341177-2					
1,2,4-Trichlorobenzene	82	95	70-130	15	25
1,3,5-Trimethylbenzene	82	92	70-130	11	25
1,2,4-Trimethylbenzene	80	92	70-130	14	25
Ethyl ether	92	101	70-130	9	25
Isopropyl Ether	79	89	70-130	12	25
Ethyl-Tert-Butyl-Ether	84	94	70-130	11	25
Tertiary-Amyl Methyl Ether	78	91	70-130	15	25
1,4-Dioxane	91	101	70-130	10	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		105		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	88		87		70-130
Dibromofluoromethane	107		110		70-130

## Matrix Spike Analysis

### Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0815550

**Project Number:** 0079387

**Report Date:** 10/27/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by MCP 8260B Associated sample(s): 01-03 QC Batch ID: WG341174-7 WG341174-8 QC Sample: L0815550-01 Client ID: IW-2-20081020-01										
Methylene chloride	ND	125	110	89	110	91	70-130	2	30	
1,1-Dichloroethane	ND	125	110	92	120	93	70-130	1	30	
Chloroform	ND	125	130	108	130	108	70-130	0	30	
Carbon tetrachloride	ND	125	94	75	99	79	70-130	5	30	
1,2-Dichloropropane	ND	125	110	91	120	93	70-130	2	30	
Dibromochloromethane	ND	125	110	92	110	90	70-130	2	30	
1,1,2-Trichloroethane	ND	125	120	93	120	95	70-130	2	30	
Tetrachloroethene	ND	125	120	95	120	96	70-130	1	30	
Chlorobenzene	ND	125	120	97	120	97	70-130	0	30	
1,2-Dichloroethane	ND	125	130	106	130	107	70-130	1	30	
1,1,1-Trichloroethane	ND	125	110	86	110	89	70-130	3	30	
Bromodichloromethane	ND	125	120	98	130	101	70-130	3	30	
trans-1,3-Dichloropropene	ND	125	100	82	100	82	70-130	0	30	
cis-1,3-Dichloropropene	ND	125	110	88	110	90	70-130	2	30	
Bromoform	ND	125	100	82	100	83	70-130	1	30	
1,1,2,2-Tetrachloroethane	ND	125	110	88	120	92	70-130	4	30	
Chloromethane	ND	125	110	85	110	86	70-130	1	30	
Vinyl chloride	130	125	200	61	200	58	70-130	5	30	
Chloroethane	ND	125	110	85	110	88	70-130	3	30	
1,1-Dichloroethene	ND	125	110	88	110	89	70-130	1	30	
trans-1,2-Dichloroethene	ND	125	110	90	120	93	70-130	3	30	

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0815550

**Project Number:** 0079387

**Report Date:** 10/27/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by MCP 8260B Associated sample(s): 01-03 QC Batch ID: WG341174-7 WG341174-8 QC Sample: L0815550-01 Client ID: IW-2-20081020-01										
Trichloroethene	39	125	150	91	150	91	70-130	0	30	
1,2-Dichlorobenzene	ND	125	120	94	120	97	70-130	3	30	
1,3-Dichlorobenzene	ND	125	120	97	120	97	70-130	0	30	
1,4-Dichlorobenzene	ND	125	120	97	120	96	70-130	1	30	
cis-1,2-Dichloroethene	480	125	590	89	600	95	70-130	7	30	
Dichlorodifluoromethane	ND	125	160	128	160	127	70-130	1	30	
1,2-Dibromoethane	ND	125	120	98	120	99	70-130	1	30	
1,3-Dichloropropane	ND	125	120	93	120	94	70-130	1	30	
1,1,1,2-Tetrachloroethane	ND	125	120	93	120	93	70-130	0	30	
o-Chlorotoluene	ND	125	110	85	110	86	70-130	1	30	
p-Chlorotoluene	ND	125	110	87	110	89	70-130	2	30	
Hexachlorobutadiene	ND	125	100	83	110	87	70-130	5	30	
1,2,4-Trichlorobenzene	ND	125	110	85	110	86	70-130	1	30	

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1,2-Dichloroethane-d4	107		108		70-130
4-Bromofluorobenzene	89		89		70-130
Dibromofluoromethane	109		111		70-130
Toluene-d8	92		94		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L0815550

Project Number: 0079387

Report Date: 10/27/08

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

## Cooler Information

Cooler	Custody Seal
A	Absent

## Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0815550-01A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-01B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-01C	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-01D	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-01E	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-01F	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-02A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-02B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-03A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-03B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-04A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-04B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-05A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-05B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-06A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-06B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-07A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-07B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-08A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-08B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-09A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-09B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-10A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-10B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-11A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-11B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-12A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-12B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-13A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-13B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)

\*Hold days indicated by values in parentheses

**Project Name:** RAYTHEON-WAYLAND**Project Number:** 0079387**Lab Number:** L0815550**Report Date:** 10/27/08**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>pH</b>	<b>Temp</b>	<b>Pres</b>	<b>Seal</b>	<b>Analysis</b>
L0815550-14A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-14B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-15A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-15B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-16A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-16B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-17A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-17B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-18A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815550-18B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)

\*Hold days indicated by values in parentheses





**Project Name:** RAYTHEON-WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

## 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:** 0079387

**Lab Number:** L0815550  
**Report Date:** 10/27/08

## REFERENCES

- 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.





# CHAIN OF CUSTODY

PAGE 1 OF 4

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

**Client Information**

Client: **ERM-BOSTON**

Address: **399 BOYLSTON ST. 6<sup>th</sup> FL. BOSTON, MA 02116**

Phone: **617-646-7800**

Fax: **617-267-6447**

Email: **balwa@massinstate.gov**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**

Project Name: **PAINTHEAVEN - WAMLAND**

Project Location: **WAMLAND, MA**

Project #: **0079387**

Project Manager: **Balwa@Massinstate.gov**

ALPHA Quote #:

Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: **10/28/08** Time:

Date Rec'd in Lab: **10/21/08**

ALPHA Job #: **L0815550**

**Report Information - Data Deliverables**

FAX  EMAIL

ADEX  Add'l Deliverables

**Regulatory Requirements/Report Limits**

State / Fed Program

**MCP-GW-1**

Criteria

**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?

ANALYSIS		SAMPLE HANDLING	
CVOCs (8021B4826)		<input type="checkbox"/> Done	
		<input type="checkbox"/> Not needed	
		<input type="checkbox"/> Lab to do	
		<input type="checkbox"/> Preservation	
		<input type="checkbox"/> Lab to do	
		(Please specify below)	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials				
		Date	Time						
15550	1-IW-2-20081020-01	10/20/08	14:50	GW	EN	2			
	1-IW-2-20081020-01-MS					2			
	1-IW-2-20081020-01-MSD					2			
	2-DUP-001-20081020-01		11:11			2			
	3-IW-5-20081021-01	10/21/08	08:35			2			
	4-IW-8-20081021-01		09:55			2			
	5-MW-500-20051021-01		12:30			2			
	<del>20081021-01</del>		12:15			2			

**QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY**

Container Type Preservative

V B

IS YOUR PROJECT MCP?

Relinquished By:

Date/Time

Received By:

Date/Time

MCP?

*Thomas Tucker 10/21/08 15:45*

*Thomas Tucker 10/21/08 15:40*

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.

*EN*



# CHAIN OF CUSTODY

PAGE 2 OF 4

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

**Client Information**

Client: ERM - BOSTON

Address: 399 BOSTON ST 6<sup>th</sup> FL

BOSTON, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: bahaar.mass@zadegan.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**

Project Name: Laytheon-Wayland

Project Location: Wayland, MA

Project #: 0079387

Project Manager: Bahaar Mass@zadegan

ALPHA Quote #:

Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: 10/28/08 Time:

Date Rec'd In Lab: 10/21/08

**Report Information - Data Deliverables**

FAX  EMAIL

ADEX  Add'l Deliverables

Regulatory/Requirements/Report Limits

State /Fed Program MR-1W-2

Criteria

**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?

**Billing Information**

Same as Client info

PO #:

ALPHA Job #: 20815550

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments
		Date	Time			
	15550-6	MW-268D-20081020-01	10/20/08 12:15	SW	UK	2
	7	MW-267S-20081020-01	10/20/08 14:35	SW	UK	2
	8	MW-268M-20081020-01	10/20/08 13:10	SW	UK	2

**ANALYSIS**  
CVOCs-00216

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

**QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY**

Container Type V  
 Preservative B

Relinquished By:

Date/Time

Received By:

Date/Time

IS YOUR PROJECT MCP ?

Relinquished By: [Signature] 10/21/08 15:45  
 Received By: [Signature] 10/21/08 12:21

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.



# CHAIN OF CUSTODY

PAGE 3 OF 4

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

**Client Information**

Client: ERPW-BOSTON

Address: 399 BOSTON ST. W<sup>TH</sup> FL.

BOSTON, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: valmar.mass@alpha.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**

Project Name: Rauheen-Wayland

Project Location: Wayland, MA

Project #: 0079387

Project Manager: Valmar Massachusetts

ALPHA Quote #:

Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 10/28/08 Time:

Date Rec'd in Lab: 10/21/08

Report Information - Data Deliverables

FAX  EMAIL

ADEx  Add'l Deliverables

Regulatory Requirements/Report Limits

State / Fed Program

MR-GW-1

Criteria

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)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Container Type	Preservative	Relinquished By	Date/Time	Received By	Date/Time	Sample Specific Comments
		Date	Time									
15556	MU-265M-20081020-01	10/20/08	1200	GW	CC	2						
	<del>MU-265M-20081020-01</del>	<del>10/20/08</del>	<del>1400</del>	<del>GW</del>	<del>CC</del>	<del>2</del>						
10	MU-266MB-20081020-01	10/20/08	1400	GW	CC	2						
11	MU-266MA-20081020-01	10/20/08	1458	GW	CC	2						
12	MU-267M-20081021-01	10/21/08	0505	GW	CC	2						
13	DUP-003-20081021-01	10/21/08	0700	GW	CC	2						

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ?

Container Type  
Preservative

Relinquished By

Date/Time

Received By

Date/Time

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.



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

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

# CHAIN OF CUSTODY

PAGE 4 OF 4

**Client Information**

Client: ERM-BOSTON

Address: 399 BOWLSTON ST. 6<sup>th</sup> FL.

BOSTON, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: bahaar.masihzadegan@erm.com

Project Name: PANTHER-WAYLAND

Project Location: WAYLAND, MA

Project #: 00793BT

Project Manager: Bahaar Masihzadegan

ALPHA Quote #:

Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 10/28/08 Time:

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab: 10/21/08

**Report Information - Data Deliverables**

FAX  EMAIL

ADEX  Add'l Deliverables

**Regulatory Requirements/Report Limits**

State /Fed Program 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?

ALPHA Job #: 20815550

**Billing Information**

Same as Client info PO #:

**ANALYSIS**  
BOZIC by B260

**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		Sample Matrix	Sampler's Initials	Sample Specific Comments
		Date	Time			
15550-N-MW-553-20081020-01		10/26/08	12:40	GW	DM	2
15-NW-553-20081020-01			13:35		DM	2
16-NW-2615-20081020-01			14:20		DM	2
17-NW-551-20081021-01		10/21/08	9:00	GW	DM	2
17-DUP-002-20081021-01		10/21/08	0:00	GW	DM	2

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT  
MA MCP or CT RCP?

Relinquished By:

Date/Time

Received By:

Date/Time

Container Type  
Preservative

V

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.



## ANALYTICAL REPORT

Lab Number: L0815549

Client: ERM Consulting & Engineering, Inc.  
399 Boylston Street  
6th Floor  
Boston, MA 02116

ATTN: Bahaar Massihzadegan

Project Name: RAYTHEON- WAYLAND

Project Number: 0079387

Report Date: 10/24/08

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](http://www.alphalab.com)



**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815549  
**Report Date:** 10/24/08

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>
L0815549-01	MW-264M-20081020-01	WAYLAND, MA



Project Name: RAYTHEON- WAYLAND

Lab Number: L0815549

Project Number: 0079387

Report Date: 10/24/08

### 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 method(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:** 0079387

**Lab Number:** L0815549  
**Report Date:** 10/24/08

### 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.

---

#### MCP Related Narratives

##### Volatile Organics

In reference to question E:

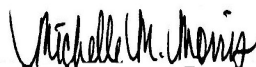
The WG340971-4/-5 LCS/LCSD recoveries associated with L0815549-01 are above the acceptance criteria for Dichlorodifluoromethane (135%/132%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for this compound.

In reference to question F:

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:



Title: Technical Director/Representative

Date: 10/24/08

# ORGANICS

# VOLATILES

Project Name: RAYTHEON- WAYLAND

Lab Number: L0815549

Project Number: 0079387

Report Date: 10/24/08

## SAMPLE RESULTS

Lab ID: L0815549-01  
 Client ID: MW-264M-20081020-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 19:24  
 Analyst: GK

Date Collected: 10/20/08 13:00  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	8.2		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	2.7		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	43		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	44		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:** L0815549**Project Number:** 0079387**Report Date:** 10/24/08**SAMPLE RESULTS**

Lab ID: L0815549-01

Date Collected: 10/20/08 13:00

Client ID: MW-264M-20081020-01

Date Received: 10/21/08

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	94		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	108		70-130

**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815549  
**Report Date:** 10/24/08

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

Analytical Method: 60,8260B  
Analytical Date: 10/23/08 12:13  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01 Batch: WG340971-6				
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

Lab Number: L0815549

Project Number: 0079387

Report Date: 10/24/08

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

Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 12:13  
 Analyst: GK

Parameter	Result	Qualifier	Units	RDL
-----------	--------	-----------	-------	-----

Volatile Organics by MCP 8260B for sample(s): 01 Batch: WG340971-6

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	104		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	106		70-130



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND

**Lab Number:** L0815549

**Project Number:** 0079387

**Report Date:** 10/24/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01 Batch: WG340971-4 WG340971-5					
Methylene chloride	99	96	70-130	3	25
1,1-Dichloroethane	90	88	70-130	2	25
Chloroform	99	100	70-130	1	25
Carbon tetrachloride	81	82	70-130	1	25
1,2-Dichloropropane	86	88	70-130	2	25
Dibromochloromethane	89	89	70-130	0	25
1,1,2-Trichloroethane	88	90	70-130	2	25
Tetrachloroethene	92	90	70-130	2	25
Chlorobenzene	91	91	70-130	0	25
1,2-Dichloroethane	96	99	70-130	3	25
1,1,1-Trichloroethane	87	89	70-130	2	25
Bromodichloromethane	90	92	70-130	2	25
trans-1,3-Dichloropropene	82	83	70-130	1	25
cis-1,3-Dichloropropene	85	88	70-130	3	25
Bromoform	84	86	70-130	2	50
1,1,2,2-Tetrachloroethane	84	85	70-130	1	25
Chloromethane	91	87	70-130	4	50
Vinyl chloride	97	93	70-130	4	25
Chloroethane	89	88	70-130	1	25
1,1-Dichloroethene	97	92	70-130	5	25
trans-1,2-Dichloroethene	91	91	70-130	0	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND

**Lab Number:** L0815549

**Project Number:** 0079387

**Report Date:** 10/24/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01 Batch: WG340971-4 WG340971-5					
Trichloroethene	92	92	70-130	0	25
1,2-Dichlorobenzene	90	91	70-130	1	25
1,3-Dichlorobenzene	94	96	70-130	2	25
1,4-Dichlorobenzene	93	94	70-130	1	25
cis-1,2-Dichloroethene	88	87	70-130	1	25
Dichlorodifluoromethane	135	132	70-130	2	50
1,2-Dibromoethane	93	91	70-130	2	25
1,3-Dichloropropane	89	89	70-130	0	25
1,1,1,2-Tetrachloroethane	90	90	70-130	0	25
o-Chlorotoluene	83	84	70-130	1	25
p-Chlorotoluene	85	86	70-130	1	25
Hexachlorobutadiene	84	94	70-130	11	25
1,2,4-Trichlorobenzene	87	92	70-130	6	25

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		106		70-130
Toluene-d8	95		94		70-130
4-Bromofluorobenzene	90		89		70-130
Dibromofluoromethane	110		109		70-130

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND

**Lab Number:** L0815549

**Project Number:** 0079387

**Report Date:** 10/24/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by MCP 8260B Associated sample(s): 01    QC Batch ID: WG340971-7 WG340971-8    QC Sample: L0815545-01    Client ID: MS Sample										
Methylene chloride	ND	10	10	106	9.8	98	70-130	8	30	
1,1-Dichloroethane	ND	10	10	100	9.5	95	70-130	5	30	
Chloroform	ND	10	12	115	11	110	70-130	4	30	
Carbon tetrachloride	ND	10	9.9	99	9.5	95	70-130	4	30	
1,2-Dichloropropane	ND	10	10	100	9.6	96	70-130	4	30	
Dibromochloromethane	ND	10	10	105	10	101	70-130	4	30	
1,1,2-Trichloroethane	ND	10	11	106	10	100	70-130	6	30	
Tetrachloroethene	2.3	10	13	109	12	100	70-130	9	30	
Chlorobenzene	ND	10	11	106	9.8	98	70-130	8	30	
1,2-Dichloroethane	ND	10	12	117	11	112	70-130	4	30	
1,1,1-Trichloroethane	ND	10	11	107	10	103	70-130	4	30	
Bromodichloromethane	ND	10	11	110	10	103	70-130	7	30	
trans-1,3-Dichloropropene	ND	10	9.3	93	8.8	88	70-130	6	30	
cis-1,3-Dichloropropene	ND	10	9.7	97	9.2	92	70-130	5	30	
Bromoform	ND	10	9.9	99	9.5	95	70-130	4	30	
1,1,2,2-Tetrachloroethane	ND	10	10	101	9.6	96	70-130	5	30	
Chloromethane	ND	10	9.2	92	9.6	96	70-130	4	30	
Vinyl chloride	ND	10	9.6	96	10	101	70-130	5	30	
Chloroethane	ND	10	8.5	85	8.2	82	70-130	4	30	
1,1-Dichloroethene	ND	10	10	103	10	103	70-130	0	30	
trans-1,2-Dichloroethene	ND	10	10	103	10	100	70-130	3	30	

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND

**Lab Number:** L0815549

**Project Number:** 0079387

**Report Date:** 10/24/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by MCP 8260B Associated sample(s): 01    QC Batch ID: WG340971-7 WG340971-8    QC Sample: L0815545-01    Client ID: MS Sample										
Trichloroethene	1.2	10	12	105	11	101	70-130	4	30	
1,2-Dichlorobenzene	ND	10	10	102	9.5	95	70-130	7	30	
1,3-Dichlorobenzene	ND	10	10	105	9.8	98	70-130	7	30	
1,4-Dichlorobenzene	ND	10	10	104	9.8	98	70-130	6	30	
cis-1,2-Dichloroethene	ND	10	10	100	9.5	95	70-130	5	30	
Dichlorodifluoromethane	ND	10	13	130	14	138	70-130	6	30	
1,2-Dibromoethane	ND	10	11	111	10	105	70-130	6	30	
1,3-Dichloropropane	ND	10	10	106	9.9	99	70-130	7	30	
1,1,1,2-Tetrachloroethane	ND	10	10	104	9.8	98	70-130	6	30	
o-Chlorotoluene	ND	10	9.5	95	8.8	88	70-130	8	30	
p-Chlorotoluene	ND	10	9.5	95	9.0	90	70-130	5	30	
Hexachlorobutadiene	ND	10	9.3	93	9.4	94	70-130	1	30	
1,2,4-Trichlorobenzene	ND	10	9.8	98	9.2	92	70-130	6	30	

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1,2-Dichloroethane-d4	104		108		70-130
4-Bromofluorobenzene	86		89		70-130
Dibromofluoromethane	109		110		70-130
Toluene-d8	94		93		70-130

**Project Name:** RAYTHEON- WAYLAND**Lab Number:** L0815549**Project Number:** 0079387**Report Date:** 10/24/08**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0815549-01A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)

\*Hold days indicated by values in parentheses

**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815549  
**Report Date:** 10/24/08

## 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:** 0079387

**Lab Number:** L0815549  
**Report Date:** 10/24/08

## REFERENCES

- 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.





# CHAIN OF CUSTODY

PAGE 1 OF 1

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

**Client Information**

Client: ERM - BOSTON

Address: 399 BOSTON ST. 6<sup>th</sup> F.  
 BOSTON, MA 02116

Phone: 617-646-7800

Fax: 617-267-6447

Email: [bahaar.mashhadegun@erm.com](mailto:bahaar.mashhadegun@erm.com)

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**

Project Name: PANTHER-WAYLAND

Project Location: 0079387

Project #: WAYLAND, MA

Project Manager: Bahaar Mashhadegun

ALPHA Quote #:

Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: 10/28/08 Time:

Date Rec'd in Lab: 10/21/08

ALPHA Job #: L0815549

**Report Information - Data Deliverables**

FAX  EMAIL  ADEX  Add'l Deliverables

**Billing Information**

Same as Client info PO #:

**Regulatory Requirements/Report Limits**

State / Fed Program: MIP-GW-7

**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?

ANALYSIS	SAMPLE HANDLING
0021 B64 B260	<input type="checkbox"/> Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Container Type	Preservative	Relinquished By:	Date/Time	Received By:	Date/Time	Sample Specific Comments
		Date	Time									
15549.1	MW-204YM-20081020-01	10/20/08	13:00	GW	CC	V	B	[Signature]	10/21/08	[Signature]	15:50	only over 4

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[Signature]	10/21/08 15:45	[Signature]	15:50
[Signature]	10/21/08 16:5	[Signature]	15:50
[Signature]	10/21/08 16:5	[Signature]	15:50

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 Payment Terms. See reverse side.





## ANALYTICAL REPORT

Lab Number: L0815548

Client: ERM Consulting & Engineering, Inc.  
399 Boylston Street  
6th Floor  
Boston, MA 02116

ATTN: Bahaar Massihzadegan

Project Name: RAYTHEON- WAYLAND

Project Number: 0079387

Report Date: 10/24/08

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](http://www.alphalab.com)



**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815548  
**Report Date:** 10/24/08

**Alpha Sample ID**

L0815548-01

**Client ID**

DEP-21-20081021-01

**Sample Location**

WAYLAND, MA

Project Name: RAYTHEON- WAYLAND

Lab Number: L0815548

Project Number: 0079387

Report Date: 10/24/08

### 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:** 0079387

**Lab Number:** L0815548  
**Report Date:** 10/24/08

### 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.

---

#### MCP Related Narratives

##### Volatile Organics

In reference to question E:

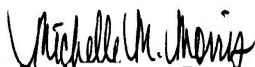
The WG340971-4/-5 LCS/LCSD recoveries associated with L0815548-01 are above the acceptance criteria for Dichlorodifluoromethane (135%/132%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for this compound.

In reference to question F:

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:



Title: Technical Director/Representative

Date: 10/24/08

# ORGANICS

# VOLATILES

Project Name: RAYTHEON- WAYLAND

Lab Number: L0815548

Project Number: 0079387

Report Date: 10/24/08

## SAMPLE RESULTS

Lab ID: L0815548-01  
 Client ID: DEP-21-20081021-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 18:51  
 Analyst: GK

Date Collected: 10/21/08 13:15  
 Date Received: 10/21/08  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	1.9		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:** L0815548**Project Number:** 0079387**Report Date:** 10/24/08**SAMPLE RESULTS**

Lab ID: L0815548-01

Date Collected: 10/21/08 13:15

Client ID: DEP-21-20081021-01

Date Received: 10/21/08

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	107		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	112		70-130



Project Name: RAYTHEON- WAYLAND

Lab Number: L0815548

Project Number: 0079387

Report Date: 10/24/08

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 12:13  
 Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01 Batch: WG340971-6				
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

Lab Number: L0815548

Project Number: 0079387

Report Date: 10/24/08

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

Analytical Method: 60,8260B  
 Analytical Date: 10/23/08 12:13  
 Analyst: GK

Parameter	Result	Qualifier	Units	RDL
-----------	--------	-----------	-------	-----

Volatile Organics by MCP 8260B for sample(s): 01 Batch: WG340971-6

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	104		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	106		70-130

## Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON- WAYLAND

Lab Number: L0815548

Project Number: 0079387

Report Date: 10/24/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01 Batch: WG340971-4 WG340971-5					
Methylene chloride	99	96	70-130	3	25
1,1-Dichloroethane	90	88	70-130	2	25
Chloroform	99	100	70-130	1	25
Carbon tetrachloride	81	82	70-130	1	25
1,2-Dichloropropane	86	88	70-130	2	25
Dibromochloromethane	89	89	70-130	0	25
1,1,2-Trichloroethane	88	90	70-130	2	25
Tetrachloroethene	92	90	70-130	2	25
Chlorobenzene	91	91	70-130	0	25
1,2-Dichloroethane	96	99	70-130	3	25
1,1,1-Trichloroethane	87	89	70-130	2	25
Bromodichloromethane	90	92	70-130	2	25
trans-1,3-Dichloropropene	82	83	70-130	1	25
cis-1,3-Dichloropropene	85	88	70-130	3	25
Bromoform	84	86	70-130	2	50
1,1,2,2-Tetrachloroethane	84	85	70-130	1	25
Chloromethane	91	87	70-130	4	50
Vinyl chloride	97	93	70-130	4	25
Chloroethane	89	88	70-130	1	25
1,1-Dichloroethene	97	92	70-130	5	25
trans-1,2-Dichloroethene	91	91	70-130	0	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND

**Lab Number:** L0815548

**Project Number:** 0079387

**Report Date:** 10/24/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01 Batch: WG340971-4 WG340971-5					
Trichloroethene	92	92	70-130	0	25
1,2-Dichlorobenzene	90	91	70-130	1	25
1,3-Dichlorobenzene	94	96	70-130	2	25
1,4-Dichlorobenzene	93	94	70-130	1	25
cis-1,2-Dichloroethene	88	87	70-130	1	25
Dichlorodifluoromethane	135	132	70-130	2	50
1,2-Dibromoethane	93	91	70-130	2	25
1,3-Dichloropropane	89	89	70-130	0	25
1,1,1,2-Tetrachloroethane	90	90	70-130	0	25
o-Chlorotoluene	83	84	70-130	1	25
p-Chlorotoluene	85	86	70-130	1	25
Hexachlorobutadiene	84	94	70-130	11	25
1,2,4-Trichlorobenzene	87	92	70-130	6	25

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		106		70-130
Toluene-d8	95		94		70-130
4-Bromofluorobenzene	90		89		70-130
Dibromofluoromethane	110		109		70-130

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815548  
**Report Date:** 10/24/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by MCP 8260B Associated sample(s): 01    QC Batch ID: WG340971-7 WG340971-8    QC Sample: L0815545-01    Client ID: MS Sample										
Methylene chloride	ND	10	10	106	9.8	98	70-130	8	30	
1,1-Dichloroethane	ND	10	10	100	9.5	95	70-130	5	30	
Chloroform	ND	10	12	115	11	110	70-130	4	30	
Carbon tetrachloride	ND	10	9.9	99	9.5	95	70-130	4	30	
1,2-Dichloropropane	ND	10	10	100	9.6	96	70-130	4	30	
Dibromochloromethane	ND	10	10	105	10	101	70-130	4	30	
1,1,2-Trichloroethane	ND	10	11	106	10	100	70-130	6	30	
Tetrachloroethene	2.3	10	13	109	12	100	70-130	9	30	
Chlorobenzene	ND	10	11	106	9.8	98	70-130	8	30	
1,2-Dichloroethane	ND	10	12	117	11	112	70-130	4	30	
1,1,1-Trichloroethane	ND	10	11	107	10	103	70-130	4	30	
Bromodichloromethane	ND	10	11	110	10	103	70-130	7	30	
trans-1,3-Dichloropropene	ND	10	9.3	93	8.8	88	70-130	6	30	
cis-1,3-Dichloropropene	ND	10	9.7	97	9.2	92	70-130	5	30	
Bromoform	ND	10	9.9	99	9.5	95	70-130	4	30	
1,1,2,2-Tetrachloroethane	ND	10	10	101	9.6	96	70-130	5	30	
Chloromethane	ND	10	9.2	92	9.6	96	70-130	4	30	
Vinyl chloride	ND	10	9.6	96	10	101	70-130	5	30	
Chloroethane	ND	10	8.5	85	8.2	82	70-130	4	30	
1,1-Dichloroethene	ND	10	10	103	10	103	70-130	0	30	
trans-1,2-Dichloroethene	ND	10	10	103	10	100	70-130	3	30	

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815548  
**Report Date:** 10/24/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by MCP 8260B Associated sample(s): 01    QC Batch ID: WG340971-7 WG340971-8    QC Sample: L0815545-01    Client ID: MS Sample										
Trichloroethene	1.2	10	12	105	11	101	70-130	4	30	
1,2-Dichlorobenzene	ND	10	10	102	9.5	95	70-130	7	30	
1,3-Dichlorobenzene	ND	10	10	105	9.8	98	70-130	7	30	
1,4-Dichlorobenzene	ND	10	10	104	9.8	98	70-130	6	30	
cis-1,2-Dichloroethene	ND	10	10	100	9.5	95	70-130	5	30	
Dichlorodifluoromethane	ND	10	13	130	14	138	70-130	6	30	
1,2-Dibromoethane	ND	10	11	111	10	105	70-130	6	30	
1,3-Dichloropropane	ND	10	10	106	9.9	99	70-130	7	30	
1,1,1,2-Tetrachloroethane	ND	10	10	104	9.8	98	70-130	6	30	
o-Chlorotoluene	ND	10	9.5	95	8.8	88	70-130	8	30	
p-Chlorotoluene	ND	10	9.5	95	9.0	90	70-130	5	30	
Hexachlorobutadiene	ND	10	9.3	93	9.4	94	70-130	1	30	
1,2,4-Trichlorobenzene	ND	10	9.8	98	9.2	92	70-130	6	30	

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1,2-Dichloroethane-d4	104		108		70-130
4-Bromofluorobenzene	86		89		70-130
Dibromofluoromethane	109		110		70-130
Toluene-d8	94		93		70-130

**Project Name:** RAYTHEON- WAYLAND**Lab Number:** L0815548**Project Number:** 0079387**Report Date:** 10/24/08**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0815548-01A	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)
L0815548-01B	Vial HCl preserved	A	N/A	3C	Y	Absent	MCP-8260-04(14)

\*Hold days indicated by values in parentheses

**Project Name:** RAYTHEON- WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0815548  
**Report Date:** 10/24/08

## 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:** 0079387

**Lab Number:** L0815548  
**Report Date:** 10/24/08

## REFERENCES

- 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.







## ANALYTICAL REPORT

Lab Number:	L0812630
Client:	ERM-New England 399 Boylston Street 6th Floor Boston, MA 02116
ATTN:	Jason Flattery
Project Name:	RAYTHEON WAYLAND
Project Number:	0079837
Report Date:	09/02/08

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:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>
L0812630-01	IW-5-20080825-01	WAYLAND, MA
L0812630-02	IW-8-20080825-01	WAYLAND, MA
L0812630-03	IW-2-20080825-01	WAYLAND, MA
L0812630-04	MW-560-20080825-01	WAYLAND, MA
L0812630-05	TB-001-20080825-01	WAYLAND, MA

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

### 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 method(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?	YES
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:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

### 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 samples were Field Filtered for Dissolved Metals only.

##### Volatile Organics

L0812630-01 and -03 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

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.

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

### Case Narrative (continued)

#### Non-MCP Related Narratives

##### Nitrate

L0812630-01 the initial pH of the sample was greater than 12. The pH was adjusted prior to analysis.

##### Total Phosphorus

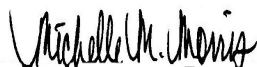
L0812630-04 has an elevated detection limit due to the dilution required to quantitate the result within the calibration range.

##### Sulfate

L0812630-02 through -04 have elevated detection limits due to the dilutions required to quantitate the results 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: 09/02/08

# ORGANICS



# VOLATILES

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-01  
 Client ID: IW-5-20080825-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 08/28/08 18:15  
 Analyst: GK

Date Collected: 08/25/08 09:35  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	100	20
1,1-Dichloroethane	ND		ug/l	15	20
Chloroform	ND		ug/l	15	20
Carbon tetrachloride	ND		ug/l	10	20
1,2-Dichloropropane	ND		ug/l	35	20
Dibromochloromethane	ND		ug/l	10	20
1,1,2-Trichloroethane	ND		ug/l	15	20
Tetrachloroethene	48		ug/l	10	20
Chlorobenzene	ND		ug/l	10	20
1,2-Dichloroethane	ND		ug/l	10	20
1,1,1-Trichloroethane	ND		ug/l	10	20
Bromodichloromethane	ND		ug/l	10	20
trans-1,3-Dichloropropene	ND		ug/l	10	20
cis-1,3-Dichloropropene	ND		ug/l	10	20
Bromoform	ND		ug/l	40	20
1,1,2,2-Tetrachloroethane	ND		ug/l	10	20
Chloromethane	ND		ug/l	50	20
Vinyl chloride	86		ug/l	20	20
Chloroethane	ND		ug/l	20	20
1,1-Dichloroethene	ND		ug/l	10	20
trans-1,2-Dichloroethene	ND		ug/l	15	20
Trichloroethene	1500		ug/l	10	20
1,2-Dichlorobenzene	ND		ug/l	50	20
1,3-Dichlorobenzene	ND		ug/l	50	20
1,4-Dichlorobenzene	ND		ug/l	50	20
cis-1,2-Dichloroethene	470		ug/l	10	20
Dichlorodifluoromethane	ND		ug/l	100	20
1,2-Dibromoethane	ND		ug/l	40	20
1,3-Dichloropropane	ND		ug/l	50	20
1,1,1,2-Tetrachloroethane	ND		ug/l	10	20

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-01  
 Client ID: IW-5-20080825-01  
 Sample Location: WAYLAND, MA

Date Collected: 08/25/08 09:35  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	50	20
p-Chlorotoluene	ND		ug/l	50	20
Hexachlorobutadiene	ND		ug/l	12	20
1,2,4-Trichlorobenzene	ND		ug/l	50	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	85		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

## SAMPLE RESULTS

Lab ID: L0812630-02  
 Client ID: IW-8-20080825-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 08/28/08 18:49  
 Analyst: GK

Date Collected: 08/25/08 11:40  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	0.89		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	1.7		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	2.8		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	4.8		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:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-02  
 Client ID: IW-8-20080825-01  
 Sample Location: WAYLAND, MA

Date Collected: 08/25/08 11:40  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	84		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	94		70-130

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

## SAMPLE RESULTS

Lab ID: L0812630-03  
 Client ID: IW-2-20080825-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 08/28/08 19:22  
 Analyst: GK

Date Collected: 08/25/08 13:45  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	25	5
1,1-Dichloroethane	ND		ug/l	3.8	5
Chloroform	ND		ug/l	3.8	5
Carbon tetrachloride	ND		ug/l	2.5	5
1,2-Dichloropropane	ND		ug/l	8.8	5
Dibromochloromethane	ND		ug/l	2.5	5
1,1,2-Trichloroethane	ND		ug/l	3.8	5
Tetrachloroethene	6.6		ug/l	2.5	5
Chlorobenzene	ND		ug/l	2.5	5
1,2-Dichloroethane	ND		ug/l	2.5	5
1,1,1-Trichloroethane	ND		ug/l	2.5	5
Bromodichloromethane	ND		ug/l	2.5	5
trans-1,3-Dichloropropene	ND		ug/l	2.5	5
cis-1,3-Dichloropropene	ND		ug/l	2.5	5
Bromoform	ND		ug/l	10	5
1,1,2,2-Tetrachloroethane	ND		ug/l	2.5	5
Chloromethane	ND		ug/l	12	5
Vinyl chloride	94		ug/l	5.0	5
Chloroethane	ND		ug/l	5.0	5
1,1-Dichloroethene	ND		ug/l	2.5	5
trans-1,2-Dichloroethene	ND		ug/l	3.8	5
Trichloroethene	34		ug/l	2.5	5
1,2-Dichlorobenzene	ND		ug/l	12	5
1,3-Dichlorobenzene	ND		ug/l	12	5
1,4-Dichlorobenzene	ND		ug/l	12	5
cis-1,2-Dichloroethene	360		ug/l	2.5	5
Dichlorodifluoromethane	ND		ug/l	25	5
1,2-Dibromoethane	ND		ug/l	10	5
1,3-Dichloropropane	ND		ug/l	12	5
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	5

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-03  
 Client ID: IW-2-20080825-01  
 Sample Location: WAYLAND, MA

Date Collected: 08/25/08 13:45  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
o-Chlorotoluene	ND		ug/l	12	5
p-Chlorotoluene	ND		ug/l	12	5
Hexachlorobutadiene	ND		ug/l	3.0	5
1,2,4-Trichlorobenzene	ND		ug/l	12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	85		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	94		70-130

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-04  
 Client ID: MW-560-20080825-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 08/28/08 19:56  
 Analyst: GK

Date Collected: 08/25/08 15:20  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</b>					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	0.96		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	5.4		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	13		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	5.8		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:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-04  
 Client ID: MW-560-20080825-01  
 Sample Location: WAYLAND, MA

Date Collected: 08/25/08 15:20  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	84		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	92		70-130

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

## SAMPLE RESULTS

Lab ID: L0812630-05  
 Client ID: TB-001-20080825-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 60,8260B  
 Analytical Date: 08/28/08 20:26  
 Analyst: GK

Date Collected: 08/20/08 09:40  
 Date Received: 08/26/08  
 Field Prep: None

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	ND		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	ND		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:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-05  
 Client ID: TB-001-20080825-01  
 Sample Location: WAYLAND, MA

Date Collected: 08/20/08 09:40  
 Date Received: 08/26/08  
 Field Prep: None

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
<b>Volatile Organics by MCP 8260B</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	85		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	92		70-130

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

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

Analytical Method: 60,8260B  
Analytical Date: 08/28/08 16:01  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01-05 Batch: WG334519-3				

Parameter	Result	Qualifier	Units	RDL
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:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

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

Analytical Method: 60,8260B  
Analytical Date: 08/28/08 16:01  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01-05 Batch: WG334519-3				

Parameter	Result	Qualifier	Units	RDL
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:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

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

Analytical Method: 60,8260B  
Analytical Date: 08/28/08 16:01  
Analyst: GK

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by MCP 8260B for sample(s): 01-05 Batch: WG334519-3				

Parameter	Result	Qualifier	Units	RDL
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	83		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	91		70-130

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0812630

**Project Number:** 0079837

**Report Date:** 09/02/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01-05 Batch: WG334519-1 WG334519-2					
Methylene chloride	106	108	70-130	2	25
1,1-Dichloroethane	109	112	70-130	3	25
Chloroform	105	108	70-130	3	25
Carbon tetrachloride	97	100	70-130	3	25
1,2-Dichloropropane	106	109	70-130	3	25
Dibromochloromethane	99	101	70-130	2	25
1,1,2-Trichloroethane	105	107	70-130	2	25
Tetrachloroethene	102	106	70-130	4	25
Chlorobenzene	106	109	70-130	3	25
Trichlorofluoromethane	89	92	70-130	3	25
1,2-Dichloroethane	100	100	70-130	0	25
1,1,1-Trichloroethane	99	103	70-130	4	25
Bromodichloromethane	107	108	70-130	1	25
trans-1,3-Dichloropropene	98	99	70-130	1	25
cis-1,3-Dichloropropene	93	93	70-130	0	25
1,1-Dichloropropene	100	105	70-130	5	25
Bromoform	98	102	70-130	4	50
1,1,2,2-Tetrachloroethane	112	115	70-130	3	25
Benzene	108	113	70-130	5	25
Toluene	108	111	70-130	3	25
Ethylbenzene	106	111	70-130	5	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0812630

**Project Number:** 0079837

**Report Date:** 09/02/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01-05 Batch: WG334519-1 WG334519-2					
Chloromethane	113	117	70-130	3	50
Bromomethane	77	81	70-130	5	50
Vinyl chloride	92	96	70-130	4	25
Chloroethane	73	75	70-130	3	25
1,1-Dichloroethene	84	89	70-130	6	25
trans-1,2-Dichloroethene	107	113	70-130	5	25
Trichloroethene	99	103	70-130	4	25
1,2-Dichlorobenzene	106	110	70-130	4	25
1,3-Dichlorobenzene	104	109	70-130	5	25
1,4-Dichlorobenzene	106	111	70-130	5	25
Methyl tert butyl ether	99	92	70-130	7	25
p/m-Xylene	103	106	70-130	3	25
o-Xylene	103	105	70-130	2	25
cis-1,2-Dichloroethene	104	111	70-130	7	25
Dibromomethane	100	102	70-130	2	25
1,2,3-Trichloropropane	116	118	70-130	2	25
Styrene	100	102	70-130	2	25
Dichlorodifluoromethane	98	99	70-130	1	50
Acetone	111	94	70-130	17	50
Carbon disulfide	<b>66</b>	<b>62</b>	70-130	6	25
2-Butanone	112	99	70-130	12	50



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0812630

**Project Number:** 0079837

**Report Date:** 09/02/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01-05 Batch: WG334519-1 WG334519-2					
4-Methyl-2-pentanone	108	93	70-130	15	50
2-Hexanone	114	95	70-130	18	50
Bromochloromethane	102	104	70-130	2	25
Tetrahydrofuran	112	111	70-130	1	25
2,2-Dichloropropane	99	101	70-130	2	50
1,2-Dibromoethane	107	104	70-130	3	25
1,3-Dichloropropane	110	112	70-130	2	25
1,1,1,2-Tetrachloroethane	99	102	70-130	3	25
Bromobenzene	107	111	70-130	4	25
n-Butylbenzene	105	107	70-130	2	25
sec-Butylbenzene	106	111	70-130	5	25
tert-Butylbenzene	105	111	70-130	6	25
o-Chlorotoluene	89	94	70-130	5	25
p-Chlorotoluene	107	111	70-130	4	25
1,2-Dibromo-3-chloropropane	103	103	70-130	0	50
Hexachlorobutadiene	108	111	70-130	3	25
Isopropylbenzene	124	129	70-130	4	25
p-Isopropyltoluene	108	111	70-130	3	25
Naphthalene	101	106	70-130	5	25
n-Propylbenzene	108	113	70-130	5	25
1,2,3-Trichlorobenzene	110	113	70-130	3	25

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0812630

**Project Number:** 0079837

**Report Date:** 09/02/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by MCP 8260B Associated sample(s): 01-05 Batch: WG334519-1 WG334519-2					
1,2,4-Trichlorobenzene	101	108	70-130	7	25
1,3,5-Trimethylbenzene	104	109	70-130	5	25
1,2,4-Trimethylbenzene	104	108	70-130	4	25
Ethyl ether	79	71	70-130	11	25
Isopropyl Ether	103	100	70-130	3	25
Ethyl-Tert-Butyl-Ether	101	96	70-130	5	25
Tertiary-Amyl Methyl Ether	97	94	70-130	3	25
1,4-Dioxane	93	84	70-130	10	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		84		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	102		103		70-130
Dibromofluoromethane	95		96		70-130

# METALS

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-01

Date Collected: 08/25/08 09:35

Client ID: IW-5-20080825-01

Date Received: 08/26/08

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
Dissolved Metals by MCP 6000/7000 series										
Iron, Dissolved	ND		mg/l	0.05	1	08/27/08 15:30	08/29/08 20:25	EPA 3005A	60,6010B	MG

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-02  
 Client ID: IW-8-20080825-01  
 Sample Location: WAYLAND, MA  
 Matrix: Water

Date Collected: 08/25/08 11:40  
 Date Received: 08/26/08  
 Field Prep: Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals by MCP 6000/7000 series										
Iron, Dissolved	12		mg/l	0.05	1	08/27/08 15:30	08/29/08 20:32	EPA 3005A	60,6010B	MG

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-03

Date Collected: 08/25/08 13:45

Client ID: IW-2-20080825-01

Date Received: 08/26/08

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
Dissolved Metals by MCP 6000/7000 series										
Iron, Dissolved	5.8		mg/l	0.05	1	08/27/08 15:30	08/29/08 20:35	EPA 3005A	60,6010B	MG

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L0812630**Project Number:** 0079837**Report Date:** 09/02/08**SAMPLE RESULTS**

Lab ID: L0812630-04

Date Collected: 08/25/08 15:20

Client ID: MW-560-20080825-01

Date Received: 08/26/08

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
Dissolved Metals by MCP 6000/7000 series										
Iron, Dissolved	7.5		mg/l	0.05	1	08/27/08 15:30	08/29/08 20:38	EPA 3005A	60,6010B	MG

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals by MCP 6000/7000 series for sample(s): 01-04 Batch: WG334227-1								
Iron, Dissolved	ND	mg/l	0.05	1	08/27/08 15:30	08/29/08 19:55	60,6010B	MG

### Prep Information

Digestion Method: EPA 3005A



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Lab Number:** L0812630

**Project Number:** 0079837

**Report Date:** 09/02/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals by MCP 6000/7000 series Associated sample(s): 01-04 Batch: WG334227-2 WG334227-3					
Iron, Dissolved	92	90	80-120	2	20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

### SAMPLE RESULTS

**Lab ID:** L0812630-01  
**Client ID:** IW-5-20080825-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 08/25/08 09:35  
**Date Received:** 08/26/08  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry</b>									
Nitrogen, Nitrate	ND		mg/l	0.10	1	-	08/26/08 23:10	30,4500NO3-F	DD
Phosphorus, Total	ND		mg/l	0.010	1	-	08/27/08 20:40	30,4500P-E	HS
Sulfate	17		mg/l	10	1	08/29/08 09:45	08/29/08 09:45	1,9038	SD
Total Organic Carbon	4.0		mg/l	0.50	1	-	08/28/08 05:46	1,9060	DW



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

### SAMPLE RESULTS

**Lab ID:** L0812630-02  
**Client ID:** IW-8-20080825-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 08/25/08 11:40  
**Date Received:** 08/26/08  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry</b>									
Nitrogen, Nitrate	ND		mg/l	0.10	1	-	08/26/08 23:13	30,4500NO3-F	DD
Phosphorus, Total	0.134		mg/l	0.010	1	-	08/27/08 20:41	30,4500P-E	HS
Sulfate	54		mg/l	50	5	08/29/08 09:45	08/29/08 09:45	1,9038	SD
Total Organic Carbon	1.4		mg/l	0.50	1	-	08/28/08 05:46	1,9060	DW



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

### SAMPLE RESULTS

**Lab ID:** L0812630-03  
**Client ID:** IW-2-20080825-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 08/25/08 13:45  
**Date Received:** 08/26/08  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry</b>									
Nitrogen, Nitrate	ND		mg/l	0.10	1	-	08/26/08 23:14	30,4500NO3-F	DD
Phosphorus, Total	0.019		mg/l	0.010	1	-	08/27/08 20:42	30,4500P-E	HS
Sulfate	49		mg/l	20	2	08/29/08 09:45	08/29/08 09:45	1,9038	SD
Total Organic Carbon	2.2		mg/l	0.50	1	-	08/28/08 05:46	1,9060	DW



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

### SAMPLE RESULTS

**Lab ID:** L0812630-04  
**Client ID:** MW-560-20080825-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 08/25/08 15:20  
**Date Received:** 08/26/08  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry</b>									
Nitrogen, Nitrate	ND		mg/l	0.10	1	-	08/26/08 23:15	30,4500NO3-F	DD
Phosphorus, Total	1.78		mg/l	0.050	5	-	08/27/08 20:42	30,4500P-E	HS
Sulfate	62		mg/l	20	2	08/29/08 09:45	08/29/08 09:45	1,9038	SD
Total Organic Carbon	1.3		mg/l	0.50	1	-	08/28/08 05:46	1,9060	DW



Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

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

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry for sample(s): 01-04 Batch: WG334065-2								
Nitrogen, Nitrate	ND	mg/l	0.10	1	-	08/26/08 21:05	30,4500NO3-F	DD
General Chemistry for sample(s): 01-04 Batch: WG334248-1								
Phosphorus, Total	ND	mg/l	0.010	1	-	08/27/08 20:16	30,4500P-E	HS
General Chemistry for sample(s): 01-04 Batch: WG334368-1								
Total Organic Carbon	ND	mg/l	0.50	1	-	08/28/08 05:46	1,9060	DW
General Chemistry for sample(s): 01-04 Batch: WG334577-1								
Sulfate	ND	mg/l	10	1	08/29/08 09:45	08/29/08 09:45	1,9038	SD

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0079837

**Lab Number:** L0812630

**Report Date:** 09/02/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Associated sample(s): 01-04 Batch: WG334065-1					
Nitrogen, Nitrate	100	-	90-110	-	
Associated sample(s): 01-04 Batch: WG334248-2					
Phosphorus, Total	97	-	85-115	-	
Associated sample(s): 01-04 Batch: WG334368-2					
Total Organic Carbon	94	-	90-110	-	
Associated sample(s): 01-04 Batch: WG334577-2					
Sulfate	95	-	90-115	-	



**Matrix Spike Analysis**  
Batch Quality Control

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

Parameter	Native Sample	MS Added	MS Found	MS	MSD Found	MSD	Recovery Limits	RPD	RPD Limits
				%Recovery		%Recovery			
Associated sample(s): 01-04 QC Batch ID: WG334065-3 QC Sample: L0812614-01 Client ID: MS Sample									
Nitrogen, Nitrate	ND	4	4.0	100	-	-	83-120	-	6
Associated sample(s): 01-04 QC Batch ID: WG334248-4 QC Sample: L0812630-02 Client ID: IW-8-20080825-01									
Phosphorus, Total	0.134	0.5	0.637	101	-	-	80-120	-	20
Associated sample(s): 01-04 QC Batch ID: WG334368-3 QC Sample: L0812468-01 Client ID: MS Sample									
Total Organic Carbon	9.6	20	33	119	-	-	80-120	-	20
Associated sample(s): 01-04 QC Batch ID: WG334577-3 QC Sample: L0812713-01 Client ID: MS Sample									
Sulfate	30	40	ND	100	-	-	55-147	-	14

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** 0079837

**Lab Number:** L0812630

**Report Date:** 09/02/08

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Associated sample(s): 01-04 QC Batch ID: WG334065-4 QC Sample: L0812614-02 Client ID: DUP Sample					
Nitrogen, Nitrate	ND	ND	mg/l	NC	6
Associated sample(s): 01-04 QC Batch ID: WG334248-3 QC Sample: L0812630-01 Client ID: IW-5-20080825-01					
Phosphorus, Total	ND	ND	mg/l	NC	20
Associated sample(s): 01-04 QC Batch ID: WG334368-4 QC Sample: L0812468-01 Client ID: DUP Sample					
Total Organic Carbon	9.6	8.3	mg/l	15	20
Associated sample(s): 01-04 QC Batch ID: WG334577-4 QC Sample: L0812713-01 Client ID: DUP Sample					
Sulfate	30	30	mg/l	0	14

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

## Cooler Information

Cooler	Custody Seal
A	Absent

## Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0812630-01A	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-01B	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-01C	Plastic 250ml H2SO4 preserved	A	<2	2C	Y	Absent	TPHOS-4500(28)
L0812630-01D	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-01E	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-01F	Plastic 500ml unpreserved	A	>12	2C	Y	Absent	SO4-9038(28),NO3-4500(2)
L0812630-01G	Plastic 250ml HNO3 preserved	A	<2	2C	Y	Absent	MCP-FE-6010S(180)
L0812630-02A	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-02B	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-02C	Plastic 250ml H2SO4 preserved	A	<2	2C	Y	Absent	TPHOS-4500(28)
L0812630-02D	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-02E	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-02F	Plastic 500ml unpreserved	A	7	2C	Y	Absent	SO4-9038(28),NO3-4500(2)
L0812630-02G	Plastic 250ml HNO3 preserved	A	<2	2C	Y	Absent	MCP-FE-6010S(180)
L0812630-03A	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-03B	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-03C	Plastic 250ml H2SO4 preserved	A	<2	2C	Y	Absent	TPHOS-4500(28)
L0812630-03D	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-03E	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-03F	Plastic 500ml unpreserved	A	7	2C	Y	Absent	SO4-9038(28),NO3-4500(2)
L0812630-03G	Plastic 250ml HNO3 preserved	A	<2	2C	Y	Absent	MCP-FE-6010S(180)
L0812630-04A	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-04B	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)
L0812630-04C	Plastic 250ml H2SO4 preserved	A	<2	2C	Y	Absent	TPHOS-4500(28)
L0812630-04D	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-04E	Vial H2SO4 preserved	A	N/A	2C	Y	Absent	TOC-9060(28)
L0812630-04F	Plastic 500ml unpreserved	A	7	2C	Y	Absent	SO4-9038(28),NO3-4500(2)
L0812630-04G	Plastic 250ml HNO3 preserved	A	<2	2C	Y	Absent	MCP-FE-6010S(180)
L0812630-05A	Vial HCl preserved	A	N/A	2C	Y	Absent	MCP-8260-04(14)

\*Hold days indicated by values in parentheses

Project Name: RAYTHEON WAYLAND

Lab Number: L0812630

Project Number: 0079837

Report Date: 09/02/08

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
--------------	----------------	--------	----	------	------	------	----------

**Container Comments**

L0812630-01A	IR Gun
L0812630-01B	IR Gun
L0812630-01C	IR Gun
L0812630-01D	IR Gun
L0812630-01E	IR Gun
L0812630-01F	IR Gun
L0812630-01G	IR Gun
L0812630-02A	IR Gun
L0812630-02B	IR Gun
L0812630-02C	IR Gun
L0812630-02D	IR Gun
L0812630-02E	IR Gun
L0812630-02F	IR Gun
L0812630-02G	IR Gun
L0812630-03A	IR Gun
L0812630-03B	IR Gun
L0812630-03C	IR Gun
L0812630-03D	IR Gun
L0812630-03E	IR Gun
L0812630-03F	IR Gun
L0812630-03G	IR Gun
L0812630-04A	IR Gun
L0812630-04B	IR Gun
L0812630-04C	IR Gun
L0812630-04D	IR Gun
L0812630-04E	IR Gun
L0812630-04F	IR Gun
L0812630-04G	IR Gun

\*Hold days indicated by values in parentheses

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
--------------	----------------	--------	----	------	------	------	----------

**Container Comments**

L0812630-05A	IR Gun
--------------	--------

\*Hold days indicated by values in parentheses



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

## 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:** 0079837

**Lab Number:** L0812630  
**Report Date:** 09/02/08

## 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 Woods Hole Labs 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 Woods Hole Labs 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.





# CHAIN OF CUSTODY

PAGE 1 OF

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

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

**Client Information**

Client: ERM-New England  
 Address: 399 Boylston Street, 6th Floor  
 Boston, MA 02116  
 Phone: 617-267-8377  
 Fax: 617-267-6447  
 Email: [jason.flattery@erm.com](mailto:jason.flattery@erm.com)

Standard  Rush (ONLY IF PRE-APPROVED)

These samples have been previously analyzed by Alpha

Due Date: 9/3/08 Time:

Other Project Specific Requirements/Comments/Detection Limits:

**Project Information**

Project Name: Raytheon Wayland  
 Project Location: Wayland, MA  
 Project #: 0019837  
 Project Manager: JASON FLATTERY  
 ALPHA Quote #:  
 Turn-Around Time

Date Rec'd in Lab: 8/26/08

ALPHA Job #: 10812631

PO #:

Report Information Data Deliverables  
 FAX  EMAIL  
 ADEX  Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program

MA MCP

Criteria

**MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOL**

Yes  No  No  
 Are MCP Analytical Methods Required?  
 Yes  No  
 Are CT RCP (Reasonable Confidence Protocols) Required?

**ANALYSIS**

Sample ID	Collection Date	Time	Sample Matrix	Sampler's Initials	SO <sub>4</sub> , NO <sub>3</sub>	Diss Fe	TPhos	TOC	8021C by 8260
<u>12630-01</u>	<u>8/25/08</u>	<u>9:35</u>	<u>GW</u>	<u>EW</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	
<u>-02</u>	<u>8/25/08</u>	<u>11:40</u>	<u>GW</u>	<u>EW</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	
<u>-03</u>	<u>8/25/08</u>	<u>13:45</u>	<u>GW</u>	<u>EW</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	
<u>-04</u>	<u>8/25/08</u>	<u>15:20</u>	<u>GW</u>	<u>EW</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	
<u>-05</u>	<u>8/29/08</u>	<u>9:40</u>	<u>GW</u>	<u>EW</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>2</u>	

**SAMPLE HANDLING**  
 Filtration  Done  
 Not Needed  
 Lab todo  
 Preservation  Lab todo  
 (Please specify below)

Sample Specific Comments

PLEASE ANSWER QUESTIONS ABOVE!

**IS YOUR PROJECT MA MCP or CT RCP?**

FORM NO 31-010 (rev 30-JUL-07)

Container Type	Preservative	Date/Time	Relinquished By:	Received By:	Date/Time
<u>P</u>	<u>A</u>	<u>8/26/08</u>	<u>Paul Gilbert</u>	<u>Paul Gilbert</u>	<u>8/26/08</u>
<u>P</u>	<u>C</u>	<u>8/26/08</u>	<u>Paul Gilbert</u>	<u>Paul Gilbert</u>	<u>8/26/08</u>
<u>P</u>	<u>D</u>	<u>8/26/08</u>	<u>Paul Gilbert</u>	<u>Paul Gilbert</u>	<u>8/26/08</u>
<u>V</u>	<u>D</u>	<u>8/26/08</u>	<u>Paul Gilbert</u>	<u>Paul Gilbert</u>	<u>8/26/08</u>
<u>V</u>	<u>B</u>	<u>8/26/08</u>	<u>Paul Gilbert</u>	<u>Paul Gilbert</u>	<u>8/26/08</u>

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





## ANALYTICAL REPORT

**Prepared for:**  
**Alpha Analytical - Westborough**  
**8 Walkup Drive**  
**Westborough, MA 01581**

**Project:** L0803236 - ERM BOSTON  
**ETR:** 0803047  
**Report Date:** March 14, 2008

### **Certifications and Accreditations**

**Massachusetts M-MA030**  
**Connecticut PH-0141**  
**New Hampshire 2206**  
**Rhode Island LAO00289**  
**New Jersey MA015**  
**Maine MA0030**  
**New York 11627**  
**Louisiana 03090**  
**Florida E87814**  
**Pennsylvania 68-02089**  
**Army Corps of Engineers**  
**Department of the Navy**

This report shall not be reproduced except in full, without written approval from the laboratory.



## Sample ID Cross Reference



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**  
ETR: **0803047**

---

<b>Lab Sample ID</b>	<b>Client Sample ID</b>
0803047-01	MW-261S-20080306-01
0803047-02	MW-265M-20080306-01
0803047-03	MW-266Ma-20080306-01
0803047-04	MW-266Mb-20080306-01
0803047-05	MW-267S-20080306-01
0803047-06	MW-267M-20080306-01
0803047-07	MW-268M-20080306-01
0803047-08	MW-268D-20080306-01
0803047-09	MW-551-20080306-01
0803047-10	MW-552-20080306-01
0803047-11	MW-553-20080306-01
0803047-12	DUP-001-20080306-01
0803047-13	DUP-002-20080306-01
0803047-14	TB-001-20080306-01

# MADEP MCP Analytical Method Report Certification Form

**Laboratory Name:** Alpha Analytical

**Project Number:** 0803047

**Project Location:** MCP RTN #<sup>1</sup>:

**This Form provides certifications for the following data set: [Laboratory Sample ID Number(s)]:**

0803047-01 through 0803047-14

**Sample Matrices:**  **Groundwater**       **Soil/Sediment**       **Drinking Water**       **Other:**

**MCP SW-846 Methods used (as specified in MADEP Compendium of Analytical Methods)**

Check all that apply:

8260B (X)	8151A ( )	8330 ( )	6010B ( )	7470A/1A ( )
8270C ( )	8081A ( )	VPH ( )	6020 ( )	9014M <sup>2</sup> ( )
8082 ( )	8021B ( )	EPH ( )	7000 S <sup>3</sup> ( )	Other:

<sup>1</sup> – List Release Tracking Number (RTN), if known.

<sup>2</sup>M – SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method.

<sup>3</sup>S – SW-846 Methods 7000 Series. List individual method and analyte.

*An affirmative response to question A, B, C and D is required for "Presumptive Certainty" status.*

<b>A</b>	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	<input checked="" type="checkbox"/> <b>Yes</b>		No <sup>1</sup>
<b>B</b>	Were all QA/QC procedures required for the specified analytical method(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?	<input checked="" type="checkbox"/> <b>Yes</b>		No <sup>1</sup>
<b>C</b>	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> <b>Yes</b>		No <sup>1</sup>
<b>D</b>	<b><u>VPH and EPH methods only:</u></b> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes		No <sup>1</sup>

*A response to questions E and F below is required for "Presumptive Certainty" status.*

<b>E</b>	Were all analytical QC performance standards and recommendations for the specified methods achieved?	Yes		<input checked="" type="checkbox"/> <b>No<sup>1</sup></b>
<b>F</b>	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes		<input checked="" type="checkbox"/> <b>No<sup>1</sup></b>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case 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:** Peter Hend      **Position:** Project Manager  
**Printed Name:** Peter Henriksen      **Date:** 3-14-08

---

# CASE NARRATIVE

## Alpha Analytical

ETR: 0803047


Project: L0803236-ERM BOSTON

All analyses were performed according to Alpha Analytical quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. All soil/sediment results are reported on a dry weight basis unless otherwise noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Alpha Analytical certifies that the test results within meet all of the requirements of NELAC, for all NELAC accredited parameters.

### *Volatile Organics by 8260*

1. The initial calibrations had values for compounds outside of the 15% RSD QC advisory limit. Refer to the Form VI Initial Calibration Summary reports for specific outliers. These initial calibrations meet the acceptability criteria.
2. Per client request, only a subset of the MCP analyte list for SW-846 Method 8260B Volatile Organic Compounds by GC/MS were reported.
3. Several samples were initially analyzed at dilution due to historical data. Refer to the individual report forms for specific dilution requirements.
4. Sample MW-267S-20080306-01 (0803047-05) had Trichloroethene detected above the calibration range of the instrument as denoted with an "E" qualifier. The sample was re-analyzed at a

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Analytical makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Analytical. To the best of my knowledge, the information contained in this report is accurate and complete. For any questions regarding this report, please contact the signatory below at 508-822-9300.

Approved by  Title: Project Manager Date: 3/14/08  
Peter Henriksen

i

O:\Report\NARRTEMP\2008\Alpha\0803047.doc

# **VOLATILE ORGANICS**

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-261S-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-01**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	20	ALM

Parameter	Result
Dichlorodifluoromethane	40.0 U
Chloromethane	40.0 U
Vinyl chloride	40.0 U
Chloroethane	40.0 U
1,1-Dichloroethene	40.0 U
Methylene chloride	100 U
trans-1,2-Dichloroethene	40.0 U
1,1-Dichloroethane	40.0 U
cis-1,2-Dichloroethene	<b>108</b>
1,1,1-Trichloroethane	40.0 U
Carbon tetrachloride	40.0 U
1,2-Dichloroethane	40.0 U
Trichloroethene	<b>3080</b>
1,2-Dichloropropane	40.0 U
Bromodichloromethane	40.0 U
cis-1,3-Dichloropropene	40.0 U
trans-1,3-Dichloropropene	40.0 U
1,1,2-Trichloroethane	40.0 U
Tetrachloroethene	<b>70.8</b>
1,3-Dichloropropane	40.0 U
Dibromochloromethane	40.0 U
1,2-Dibromoethane	40.0 U
Chlorobenzene	40.0 U
1,1,1,2-Tetrachloroethane	40.0 U
Bromoform	40.0 U
1,1,2,2-Tetrachloroethane	40.0 U
2-Chlorotoluene	40.0 U
4-Chlorotoluene	40.0 U
1,3-Dichlorobenzene	40.0 U
1,4-Dichlorobenzene	40.0 U
1,2-Dichlorobenzene	40.0 U
1,2,4-Trichlorobenzene	40.0 U
Hexachlorobutadiene	40.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	99	70-130
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-265M-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-02**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/12/08	5	5	10	ALM

Parameter	Result
Dichlorodifluoromethane	20.0 U
Chloromethane	20.0 U
Vinyl chloride	<b>36.8</b>
Chloroethane	20.0 U
1,1-Dichloroethene	20.0 U
Methylene chloride	50.0 U
trans-1,2-Dichloroethene	20.0 U
1,1-Dichloroethane	20.0 U
cis-1,2-Dichloroethene	<b>454</b>
1,1,1-Trichloroethane	20.0 U
Carbon tetrachloride	20.0 U
1,2-Dichloroethane	20.0 U
Trichloroethene	<b>622</b>
1,2-Dichloropropane	20.0 U
Bromodichloromethane	20.0 U
cis-1,3-Dichloropropene	20.0 U
trans-1,3-Dichloropropene	20.0 U
1,1,2-Trichloroethane	20.0 U
Tetrachloroethene	<b>39.3</b>
1,3-Dichloropropane	20.0 U
Dibromochloromethane	20.0 U
1,2-Dibromoethane	20.0 U
Chlorobenzene	20.0 U
1,1,1,2-Tetrachloroethane	20.0 U
Bromoform	20.0 U
1,1,2,2-Tetrachloroethane	20.0 U
2-Chlorotoluene	20.0 U
4-Chlorotoluene	20.0 U
1,3-Dichlorobenzene	20.0 U
1,4-Dichlorobenzene	20.0 U
1,2-Dichlorobenzene	20.0 U
1,2,4-Trichlorobenzene	20.0 U
Hexachlorobutadiene	20.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	106	70-130
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-266Ma-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-03**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.82
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	11.5
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	104	70-130
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	97	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.



# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-266Mb-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-04**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	2	ALM

Parameter	Result
Dichlorodifluoromethane	4.00 U
Chloromethane	4.00 U
Vinyl chloride	15.0
Chloroethane	4.00 U
1,1-Dichloroethene	4.00 U
Methylene chloride	10.0 U
trans-1,2-Dichloroethene	4.00 U
1,1-Dichloroethane	4.00 U
cis-1,2-Dichloroethene	222
1,1,1-Trichloroethane	4.00 U
Carbon tetrachloride	4.00 U
1,2-Dichloroethane	4.00 U
Trichloroethene	183
1,2-Dichloropropane	4.00 U
Bromodichloromethane	4.00 U
cis-1,3-Dichloropropene	4.00 U
trans-1,3-Dichloropropene	4.00 U
1,1,2-Trichloroethane	4.00 U
Tetrachloroethene	32.7
1,3-Dichloropropane	4.00 U
Dibromochloromethane	4.00 U
1,2-Dibromoethane	4.00 U
Chlorobenzene	4.00 U
1,1,1,2-Tetrachloroethane	4.00 U
Bromoform	4.00 U
1,1,2,2-Tetrachloroethane	4.00 U
2-Chlorotoluene	4.00 U
4-Chlorotoluene	4.00 U
1,3-Dichlorobenzene	4.00 U
1,4-Dichlorobenzene	4.00 U
1,2-Dichlorobenzene	4.00 U
1,2,4-Trichlorobenzene	4.00 U
Hexachlorobutadiene	4.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	102	70-130
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	98	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-267S-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-05**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	94.7
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	532 E
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	9.81
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	104	70-130
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	97	70-130

N/A - Not Applicable  
 E - Estimated value, exceeds the upper limit of calibration.  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-267S-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-05E**  
 Associated Blank: **VW031408B04**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/14/08	5	5	5	ALM

Parameter	Result
Dichlorodifluoromethane	10.0 U
Chloromethane	10.0 U
Vinyl chloride	10.0 U
Chloroethane	10.0 U
1,1-Dichloroethene	10.0 U
Methylene chloride	25.0 U
trans-1,2-Dichloroethene	10.0 U
1,1-Dichloroethane	10.0 U
cis-1,2-Dichloroethene	90.2
1,1,1-Trichloroethane	10.0 U
Carbon tetrachloride	10.0 U
1,2-Dichloroethane	10.0 U
Trichloroethene	555
1,2-Dichloropropane	10.0 U
Bromodichloromethane	10.0 U
cis-1,3-Dichloropropene	10.0 U
trans-1,3-Dichloropropene	10.0 U
1,1,2-Trichloroethane	10.0 U
Tetrachloroethene	10.0 U
1,3-Dichloropropane	10.0 U
Dibromochloromethane	10.0 U
1,2-Dibromoethane	10.0 U
Chlorobenzene	10.0 U
1,1,1,2-Tetrachloroethane	10.0 U
Bromoform	10.0 U
1,1,2,2-Tetrachloroethane	10.0 U
2-Chlorotoluene	10.0 U
4-Chlorotoluene	10.0 U
1,3-Dichlorobenzene	10.0 U
1,4-Dichlorobenzene	10.0 U
1,2-Dichlorobenzene	10.0 U
1,2,4-Trichlorobenzene	10.0 U
Hexachlorobutadiene	10.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	103	70-130
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	91	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-267M-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-06**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	5	ALM

Parameter	Result
Dichlorodifluoromethane	10.0 U
Chloromethane	10.0 U
Vinyl chloride	23.8
Chloroethane	10.0 U
1,1-Dichloroethene	10.0 U
Methylene chloride	25.0 U
trans-1,2-Dichloroethene	10.0 U
1,1-Dichloroethane	10.0 U
cis-1,2-Dichloroethene	661
1,1,1-Trichloroethane	10.0 U
Carbon tetrachloride	10.0 U
1,2-Dichloroethane	10.0 U
Trichloroethene	768
1,2-Dichloropropane	10.0 U
Bromodichloromethane	10.0 U
cis-1,3-Dichloropropene	10.0 U
trans-1,3-Dichloropropene	10.0 U
1,1,2-Trichloroethane	10.0 U
Tetrachloroethene	45.3
1,3-Dichloropropane	10.0 U
Dibromochloromethane	10.0 U
1,2-Dibromoethane	10.0 U
Chlorobenzene	10.0 U
1,1,1,2-Tetrachloroethane	10.0 U
Bromoform	10.0 U
1,1,2,2-Tetrachloroethane	10.0 U
2-Chlorotoluene	10.0 U
4-Chlorotoluene	10.0 U
1,3-Dichlorobenzene	10.0 U
1,4-Dichlorobenzene	10.0 U
1,2-Dichlorobenzene	10.0 U
1,2,4-Trichlorobenzene	10.0 U
Hexachlorobutadiene	10.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	104	70-130
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-268M-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-07**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	20	ALM

Parameter	Result
Dichlorodifluoromethane	40.0 U
Chloromethane	40.0 U
Vinyl chloride	112
Chloroethane	40.0 U
1,1-Dichloroethene	40.0 U
Methylene chloride	100 U
trans-1,2-Dichloroethene	40.0 U
1,1-Dichloroethane	40.0 U
cis-1,2-Dichloroethene	3310
1,1,1-Trichloroethane	40.0 U
Carbon tetrachloride	40.0 U
1,2-Dichloroethane	40.0 U
Trichloroethene	1990
1,2-Dichloropropane	40.0 U
Bromodichloromethane	40.0 U
cis-1,3-Dichloropropene	40.0 U
trans-1,3-Dichloropropene	40.0 U
1,1,2-Trichloroethane	40.0 U
Tetrachloroethene	57.6
1,3-Dichloropropane	40.0 U
Dibromochloromethane	40.0 U
1,2-Dibromoethane	40.0 U
Chlorobenzene	40.0 U
1,1,1,2-Tetrachloroethane	40.0 U
Bromoform	40.0 U
1,1,1,2,2-Tetrachloroethane	40.0 U
2-Chlorotoluene	40.0 U
4-Chlorotoluene	40.0 U
1,3-Dichlorobenzene	40.0 U
1,4-Dichlorobenzene	40.0 U
1,2-Dichlorobenzene	40.0 U
1,2,4-Trichlorobenzene	40.0 U
Hexachlorobutadiene	40.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	97	70-130
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-268D-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-08**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	9.55
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	9.41
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	107	70-130
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-551-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-09**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	<b>16.8</b>
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	107	70-130
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	98	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-552-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-10**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	50	ALM

Parameter	Result
Dichlorodifluoromethane	100 U
Chloromethane	100 U
Vinyl chloride	100 U
Chloroethane	100 U
1,1-Dichloroethene	100 U
Methylene chloride	250 U
trans-1,2-Dichloroethene	100 U
1,1-Dichloroethane	100 U
cis-1,2-Dichloroethene	325
1,1,1-Trichloroethane	100 U
Carbon tetrachloride	100 U
1,2-Dichloroethane	100 U
Trichloroethene	4020
1,2-Dichloropropane	100 U
Bromodichloromethane	100 U
cis-1,3-Dichloropropene	100 U
trans-1,3-Dichloropropene	100 U
1,1,2-Trichloroethane	100 U
Tetrachloroethene	170
1,3-Dichloropropane	100 U
Dibromochloromethane	100 U
1,2-Dibromoethane	100 U
Chlorobenzene	100 U
1,1,1,2-Tetrachloroethane	100 U
Bromoform	100 U
1,1,2,2-Tetrachloroethane	100 U
2-Chlorotoluene	100 U
4-Chlorotoluene	100 U
1,3-Dichlorobenzene	100 U
1,4-Dichlorobenzene	100 U
1,2-Dichlorobenzene	100 U
1,2,4-Trichlorobenzene	100 U
Hexachlorobutadiene	100 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	105	70-130
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.



# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **MW-553-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-11**  
 Associated Blank: **VW031408B04**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/14/08	5	5	2	ALM

Parameter	Result
Dichlorodifluoromethane	4.00 U
Chloromethane	4.00 U
Vinyl chloride	4.00 U
Chloroethane	4.00 U
1,1-Dichloroethene	4.00 U
Methylene chloride	10.0 U
trans-1,2-Dichloroethene	4.00 U
1,1-Dichloroethane	4.00 U
cis-1,2-Dichloroethene	53.5
1,1,1-Trichloroethane	4.00 U
Carbon tetrachloride	4.00 U
1,2-Dichloroethane	4.00 U
Trichloroethene	305
1,2-Dichloropropane	4.00 U
Bromodichloromethane	4.00 U
cis-1,3-Dichloropropene	4.00 U
trans-1,3-Dichloropropene	4.00 U
1,1,2-Trichloroethane	4.00 U
Tetrachloroethene	29.5
1,3-Dichloropropane	4.00 U
Dibromochloromethane	4.00 U
1,2-Dibromoethane	4.00 U
Chlorobenzene	4.00 U
1,1,1,2-Tetrachloroethane	4.00 U
Bromoform	4.00 U
1,1,2,2-Tetrachloroethane	4.00 U
2-Chlorotoluene	4.00 U
4-Chlorotoluene	4.00 U
1,3-Dichlorobenzene	4.00 U
1,4-Dichlorobenzene	4.00 U
1,2-Dichlorobenzene	4.00 U
1,2,4-Trichlorobenzene	4.00 U
Hexachlorobutadiene	4.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	103	70-130
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	91	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **DUP-001-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-12**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	20	ALM

Parameter	Result
Dichlorodifluoromethane	40.0 U
Chloromethane	40.0 U
Vinyl chloride	117
Chloroethane	40.0 U
1,1-Dichloroethene	40.0 U
Methylene chloride	100 U
trans-1,2-Dichloroethene	40.0 U
1,1-Dichloroethane	40.0 U
cis-1,2-Dichloroethene	3440
1,1,1-Trichloroethane	40.0 U
Carbon tetrachloride	40.0 U
1,2-Dichloroethane	40.0 U
Trichloroethene	1990
1,2-Dichloropropane	40.0 U
Bromodichloromethane	40.0 U
cis-1,3-Dichloropropene	40.0 U
trans-1,3-Dichloropropene	40.0 U
1,1,2-Trichloroethane	40.0 U
Tetrachloroethene	57.6
1,3-Dichloropropane	40.0 U
Dibromochloromethane	40.0 U
1,2-Dibromoethane	40.0 U
Chlorobenzene	40.0 U
1,1,1,2-Tetrachloroethane	40.0 U
Bromoform	40.0 U
1,1,2,2-Tetrachloroethane	40.0 U
2-Chlorotoluene	40.0 U
4-Chlorotoluene	40.0 U
1,3-Dichlorobenzene	40.0 U
1,4-Dichlorobenzene	40.0 U
1,2-Dichlorobenzene	40.0 U
1,2,4-Trichlorobenzene	40.0 U
Hexachlorobutadiene	40.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	100	70-130
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **DUP-002-20080306-01**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-13**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	20	ALM

Parameter	Result
Dichlorodifluoromethane	40.0 U
Chloromethane	40.0 U
Vinyl chloride	40.0 U
Chloroethane	40.0 U
1,1-Dichloroethene	40.0 U
Methylene chloride	100 U
trans-1,2-Dichloroethene	40.0 U
1,1-Dichloroethane	40.0 U
cis-1,2-Dichloroethene	117
1,1,1-Trichloroethane	40.0 U
Carbon tetrachloride	40.0 U
1,2-Dichloroethane	40.0 U
Trichloroethene	3310
1,2-Dichloropropane	40.0 U
Bromodichloromethane	40.0 U
cis-1,3-Dichloropropene	40.0 U
trans-1,3-Dichloropropene	40.0 U
1,1,2-Trichloroethane	40.0 U
Tetrachloroethene	71.6
1,3-Dichloropropane	40.0 U
Dibromochloromethane	40.0 U
1,2-Dibromoethane	40.0 U
Chlorobenzene	40.0 U
1,1,1,2-Tetrachloroethane	40.0 U
Bromoform	40.0 U
1,1,2,2-Tetrachloroethane	40.0 U
2-Chlorotoluene	40.0 U
4-Chlorotoluene	40.0 U
1,3-Dichlorobenzene	40.0 U
1,4-Dichlorobenzene	40.0 U
1,2-Dichlorobenzene	40.0 U
1,2,4-Trichlorobenzene	40.0 U
Hexachlorobutadiene	40.0 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	99	70-130
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **TB-001-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **0803047-14**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
02/04/08	03/11/08	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.00 U
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	100	70-130
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **Blank**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **VW031208B02**  
 Associated Blank: **N/A**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.00 U
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	102	70-130
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **Blank**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **VW031308B08**  
 Associated Blank: **N/A**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/13/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.00 U
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	97	70-130
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **Blank**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **VW031408B04**  
 Associated Blank: **N/A**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/14/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.00 U
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	103	70-130
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	92	70-130

N/A - Not Applicable  
 U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form III Spike Recovery Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **Laboratory Control Sample**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **See Below**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/12/08	5	5	1	ALM

Lab ID: VW031208B02 VW031208LCS01 VW031208LCSD01

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Dichlorodifluoromethane	2.00	U	21.6	108	21.0	105	3	25	70-130
Chloromethane	2.00	U	21.1	106	19.9	99	6	25	70-130
Vinyl chloride	2.00	U	22.2	111	22.1	111	0	25	70-130
Chloroethane	2.00	U	24.6	123	23.0	115	7	25	70-130
1,1-Dichloroethene	2.00	U	19.3	96	19.0	95	1	25	70-130
Methylene chloride	5.00	U	18.9	94	18.8	94	0	25	70-130
trans-1,2-Dichloroethene	2.00	U	19.5	97	18.9	94	3	25	70-130
1,1-Dichloroethane	2.00	U	19.5	97	18.9	94	3	25	70-130
cis-1,2-Dichloroethene	2.00	U	19.7	98	19.0	95	4	25	70-130
1,1,1-Trichloroethane	2.00	U	19.8	99	19.1	95	4	25	70-130
Carbon tetrachloride	2.00	U	19.4	97	18.7	94	3	25	70-130
1,2-Dichloroethane	2.00	U	19.6	98	19.5	98	1	25	70-130
Trichloroethene	2.00	U	20.1	100	19.5	98	3	25	70-130
1,2-Dichloropropane	2.00	U	19.4	97	19.5	97	0	25	70-130
Bromodichloromethane	2.00	U	19.7	99	19.2	96	3	25	70-130
cis-1,3-Dichloropropene	2.00	U	19.4	97	19.3	96	1	25	70-130
trans-1,3-Dichloropropene	2.00	U	19.4	97	19.1	96	2	25	70-130
1,1,2-Trichloroethane	2.00	U	19.6	98	19.4	97	1	25	70-130
Tetrachloroethene	2.00	U	20.3	102	19.4	97	5	25	70-130
1,3-Dichloropropane	2.00	U	19.7	99	19.4	97	1	25	70-130
Dibromochloromethane	2.00	U	19.6	98	20.0	100	2	25	70-130
1,2-Dibromoethane	2.00	U	19.6	98	19.5	98	1	25	70-130
Chlorobenzene	2.00	U	19.7	98	19.2	96	3	25	70-130
1,1,1,2-Tetrachloroethane	2.00	U	19.7	98	19.7	98	0	25	70-130
Bromoform	2.00	U	19.7	98	18.7	93	5	25	70-130
1,1,2,2-Tetrachloroethane	2.00	U	19.7	99	19.3	96	2	25	70-130
2-Chlorotoluene	2.00	U	19.8	99	19.0	95	4	25	70-130
4-Chlorotoluene	2.00	U	19.0	95	18.3	91	4	25	70-130
1,3-Dichlorobenzene	2.00	U	20.0	100	19.2	96	4	25	70-130
1,4-Dichlorobenzene	2.00	U	19.6	98	19.5	97	1	25	70-130
1,2-Dichlorobenzene	2.00	U	20.3	101	19.4	97	4	25	70-130
1,2,4-Trichlorobenzene	2.00	U	20.3	101	19.4	97	5	25	70-130
Hexachlorobutadiene	2.00	U	21.9	110	19.5	98	11	25	70-130

Surrogate	% Recovery		Acceptance Range (%)
Dibromofluoromethane	98	98	70-130
1,2-Dichloroethane-d4	97	97	70-130
Toluene-d8	100	102	70-130
4-Bromofluorobenzene	100	99	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.



# Form III

## Spike Recovery Summary

### Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **Laboratory Control Sample**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **See Below**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/13/08	5	5	1	ALM

Lab ID: **VW031308B08 VW031308LCS04 VW031308LCSD04**

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Dichlorodifluoromethane	2.00	U	17.8	89	17.8	89	0	25	70-130
Chloromethane	2.00	U	16.4	82	16.9	85	3	25	70-130
Vinyl chloride	2.00	U	18.3	92	18.5	93	1	25	70-130
Chloroethane	2.00	U	17.4	87	18.0	90	4	25	70-130
1,1-Dichloroethene	2.00	U	20.5	103	20.6	103	0	25	70-130
Methylene chloride	5.00	U	19.9	99	20.3	102	2	25	70-130
trans-1,2-Dichloroethene	2.00	U	18.8	94	20.0	100	6	25	70-130
1,1-Dichloroethane	2.00	U	19.3	96	19.8	99	3	25	70-130
cis-1,2-Dichloroethene	2.00	U	18.4	92	19.4	97	5	25	70-130
1,1,1-Trichloroethane	2.00	U	19.0	95	19.8	99	4	25	70-130
Carbon tetrachloride	2.00	U	19.1	95	19.7	99	3	25	70-130
1,2-Dichloroethane	2.00	U	18.6	93	18.7	94	1	25	70-130
Trichloroethene	2.00	U	19.9	99	20.4	102	3	25	70-130
1,2-Dichloropropane	2.00	U	20.6	103	20.3	102	1	25	70-130
Bromodichloromethane	2.00	U	19.2	96	19.9	100	4	25	70-130
cis-1,3-Dichloropropene	2.00	U	19.7	99	19.7	99	0	25	70-130
trans-1,3-Dichloropropene	2.00	U	19.3	97	19.5	98	1	25	70-130
1,1,2-Trichloroethane	2.00	U	19.8	99	19.8	99	0	25	70-130
Tetrachloroethene	2.00	U	21.3	106	22.2	111	4	25	70-130
1,3-Dichloropropane	2.00	U	19.5	98	19.6	98	0	25	70-130
Dibromochloromethane	2.00	U	19.9	99	20.1	100	1	25	70-130
1,2-Dibromoethane	2.00	U	19.9	99	20.6	103	3	25	70-130
Chlorobenzene	2.00	U	19.6	98	20.0	100	2	25	70-130
1,1,1,2-Tetrachloroethane	2.00	U	20.1	100	20.4	102	2	25	70-130
Bromoform	2.00	U	19.8	99	19.9	99	0	25	70-130
1,1,2,2-Tetrachloroethane	2.00	U	19.5	97	18.8	94	4	25	70-130
2-Chlorotoluene	2.00	U	19.0	95	19.9	100	5	25	70-130
4-Chlorotoluene	2.00	U	19.1	95	19.8	99	4	25	70-130
1,3-Dichlorobenzene	2.00	U	20.0	100	20.7	103	3	25	70-130
1,4-Dichlorobenzene	2.00	U	19.7	98	20.2	101	3	25	70-130
1,2-Dichlorobenzene	2.00	U	19.8	99	20.4	102	3	25	70-130
1,2,4-Trichlorobenzene	2.00	U	20.0	100	20.1	101	1	25	70-130
Hexachlorobutadiene	2.00	U	20.6	103	20.3	102	2	25	70-130

Surrogate	% Recovery		Acceptance Range (%)
Dibromofluoromethane	96	96	70-130
1,2-Dichloroethane-d4	90	90	70-130
Toluene-d8	100	100	70-130
4-Bromofluorobenzene	98	100	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

# Form III

## Spike Recovery Summary

### Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Client ID: **Laboratory Control Sample**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **See Below**  
 Associated Blank: **VW031408B04**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/14/08	5	5	1	ALM

Lab ID: **VW031408B04 VW031408LCS03 VW031408LCSD03**

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Dichlorodifluoromethane	2.00	U	18.9	94	19.1	95	1	25	70-130
Chloromethane	2.00	U	19.0	95	19.0	95	0	25	70-130
Vinyl chloride	2.00	U	20.6	103	21.0	105	2	25	70-130
Chloroethane	2.00	U	20.1	101	20.2	101	0	25	70-130
1,1-Dichloroethene	2.00	U	19.4	97	20.0	100	3	25	70-130
Methylene chloride	5.00	U	17.0	85	17.2	86	1	25	70-130
trans-1,2-Dichloroethene	2.00	U	18.8	94	19.3	96	3	25	70-130
1,1-Dichloroethane	2.00	U	18.8	94	19.2	96	2	25	70-130
cis-1,2-Dichloroethene	2.00	U	18.8	94	18.7	93	1	25	70-130
1,1,1-Trichloroethane	2.00	U	17.1	85	17.4	87	2	25	70-130
Carbon tetrachloride	2.00	U	15.2	76	15.6	78	3	25	70-130
1,2-Dichloroethane	2.00	U	19.6	98	19.8	99	1	25	70-130
Trichloroethene	2.00	U	16.2	81	16.7	84	3	25	70-130
1,2-Dichloropropane	2.00	U	17.4	87	17.9	89	3	25	70-130
Bromodichloromethane	2.00	U	17.0	85	17.6	88	4	25	70-130
cis-1,3-Dichloropropene	2.00	U	17.8	89	17.9	90	1	25	70-130
trans-1,3-Dichloropropene	2.00	U	17.6	88	17.7	88	0	25	70-130
1,1,2-Trichloroethane	2.00	U	17.6	88	17.8	89	1	25	70-130
Tetrachloroethene	2.00	U	16.5	82	16.8	84	2	25	70-130
1,3-Dichloropropane	2.00	U	17.8	89	18.1	91	2	25	70-130
Dibromochloromethane	2.00	U	16.9	84	16.8	84	1	25	70-130
1,2-Dibromoethane	2.00	U	17.4	87	17.8	89	2	25	70-130
Chlorobenzene	2.00	U	19.1	95	19.4	97	2	25	70-130
1,1,1,2-Tetrachloroethane	2.00	U	17.8	89	18.4	92	3	25	70-130
Bromoform	2.00	U	17.2	86	17.1	86	0	25	70-130
1,1,2,2-Tetrachloroethane	2.00	U	19.4	97	19.4	97	0	25	70-130
2-Chlorotoluene	2.00	U	19.0	95	19.0	95	0	25	70-130
4-Chlorotoluene	2.00	U	19.5	97	19.5	98	0	25	70-130
1,3-Dichlorobenzene	2.00	U	19.4	97	19.4	97	0	25	70-130
1,4-Dichlorobenzene	2.00	U	18.9	94	19.0	95	1	25	70-130
1,2-Dichlorobenzene	2.00	U	19.6	98	19.5	97	0	25	70-130
1,2,4-Trichlorobenzene	2.00	U	18.4	92	18.2	91	1	25	70-130
Hexachlorobutadiene	2.00	U	20.0	100	19.5	97	3	25	70-130

Surrogate	% Recovery		Acceptance Range (%)
Dibromofluoromethane	100	101	70-130
1,2-Dichloroethane-d4	106	106	70-130
Toluene-d8	98	97	70-130
4-Bromofluorobenzene	99	99	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

26/58

03/14/08 13:29

*Supporting Quality  
Control Results*

**Form II  
Surrogate Recovery  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: N/A      SDG: N/A

Lab Code: **MA00030**  
 ETR: **0803047**  
 Matrix: **Water**

Client ID	Lab ID	Dibromofluoromethane 1,2-Dichloroethane-d4		Toluene-d8	4-Bromofluorobenzene
LCS	VW031208LCS01	98	97	100	100
LCSD	VW031208LCSD01	98	97	102	99
Blank	VW031208B02	102	101	101	96
TB-001-20080306-01	0803047-14	100	102	99	96
MW-266Ma-20080306-01	0803047-03	104	111	93	97
MW-267S-20080306-01	0803047-05	104	113	91	97
MW-268D-20080306-01	0803047-08	107	115	99	99
MW-551-20080306-01	0803047-09	107	116	92	98
MW-265M-20080306-01	0803047-02	106	119	101	99
LCS	VW031308LCS04	96	90	100	98
LCSD	VW031308LCSD04	96	90	100	100
Blank	VW031308B08	97	95	98	96
MW-261S-20080306-01	0803047-01	99	102	99	96
MW-268M-20080306-01	0803047-07	97	100	99	95
DUP-001-20080306-01	0803047-12	100	107	99	96
DUP-002-20080306-01	0803047-13	99	107	99	96
MW-266Mb-20080306-01	0803047-04	102	108	94	98
MW-267M-20080306-01	0803047-06	104	109	102	96
MW-552-20080306-01	0803047-10	105	114	99	98

N/A - Not Applicable

Surrogate	QC Limit
Dibromofluoromethane	70-130
1,2-Dichloroethane-d4	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

**Form II  
Surrogate Recovery  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803047**

Matrix: **Water**

Case: **N/A**      SDG: **N/A**

Client ID	Lab ID	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
LCS	VW031408LCS03	100	106	98	99
LCSD	VW031408LCSD03	101	106	97	99
Blank	VW031408B04	103	110	92	92
MW-267S-20080306-01	0803047-05E	103	107	93	91
MW-553-20080306-01	0803047-11	103	110	93	91

N/A - Not Applicable

Surrogate	QC Limit
Dibromofluoromethane	70-130
1,2-Dichloroethane-d4	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

**Form IV**  
**Method Blank Summary**  
**Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**  
Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
ETR: **0803047**  
Lab ID: **VW031208B02**  
Date Analyzed: **03/12/08 16:51**

Client ID	Lab ID	Date/Time Analyzed
LCS	VW031208LCS01	03/12/08 15:19
LCSD	VW031208LCSD01	03/12/08 15:50
TB-001-20080306-01	0803047-14	03/12/08 17:22
MW-266Ma-20080306-01	0803047-03	03/12/08 19:55
MW-267S-20080306-01	0803047-05	03/12/08 20:26
MW-268D-20080306-01	0803047-08	03/12/08 20:57
MW-551-20080306-01	0803047-09	03/12/08 21:27
MW-265M-20080306-01	0803047-02	03/12/08 22:29

N/A - Not Applicable

**Form IV  
Method Blank Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**

Project: **L0803236 - ERM BOSTON**

Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**

ETR: **0803047**

Lab ID: **VW031308B08**

Date Analyzed: **03/13/08 18:52**

<b>Client ID</b>	<b>Lab ID</b>	<b>Date/Time Analyzed</b>
LCS	VW031308LCS04	03/13/08 17:20
LCSD	VW031308LCSD04	03/13/08 17:50
MW-261S-20080306-01	0803047-01	03/13/08 19:56
MW-268M-20080306-01	0803047-07	03/13/08 20:29
DUP-001-20080306-01	0803047-12	03/13/08 21:02
DUP-002-20080306-01	0803047-13	03/13/08 21:36
MW-266Mb-20080306-01	0803047-04	03/13/08 22:09
MW-267M-20080306-01	0803047-06	03/13/08 22:42
MW-552-20080306-01	0803047-10	03/13/08 23:16

N/A - Not Applicable

**Form IV  
Method Blank Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**  
Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
ETR: **0803047**  
Lab ID: **VW031408B04**  
Date Analyzed: **03/14/08 10:44**

<b>Client ID</b>	<b>Lab ID</b>	<b>Date/Time Analyzed</b>
LCS	VW031408LCS03	03/14/08 09:48
LCSD	VW031408LCSD03	03/14/08 10:16
MW-267S-20080306-01	0803047-05E	03/14/08 11:15
MW-553-20080306-01	0803047-11	03/14/08 12:17

N/A - Not Applicable



**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **T1031201**  
 Date Analyzed: **03/12/08 08:39**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	21.4	45101	Pass
75	95	30	60	47.1	99181	Pass
95	95	100	100	100	210496	Pass
96	95	5	9	6.6	13976	Pass
173	174	0	2	0	0	Pass
174	95	50	100	69.2	145600	Pass
175	174	5	9	7.7	11160	Pass
176	174	95	101	97.7	142208	Pass
177	176	5	9	6.6	9418	Pass

Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	I1031201	03/12/08 09:10
Initial Calibration	I1031202	03/12/08 09:41
Initial Calibration	I1031204	03/12/08 10:42
Initial Calibration	I1031205	03/12/08 11:13
Initial Calibration	I1031206	03/12/08 11:44
Initial Calibration	I1031207	03/12/08 14:17

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **T1031202**  
 Date Analyzed: **03/12/08 13:47**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	21.5	44045	Pass
75	95	30	60	46.4	94901	Pass
95	95	100	100	100	204693	Pass
96	95	5	9	6.9	14054	Pass
173	174	0	2	0	0	Pass
174	95	50	100	71.6	146475	Pass
175	174	5	9	7.5	11025	Pass
176	174	95	101	95.6	140075	Pass
177	176	5	9	6.4	8962	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C1031201	03/12/08 14:48
LCS	VW031208LCS01	03/12/08 15:19
LCSD	VW031208LCSD01	03/12/08 15:50
Blank	VW031208B02	03/12/08 16:51
TB-001-20080306-01	0803047-14	03/12/08 17:22
MW-266Ma-20080306-01	0803047-03	03/12/08 19:55
MW-267S-20080306-01	0803047-05	03/12/08 20:26
MW-268D-20080306-01	0803047-08	03/12/08 20:57
MW-551-20080306-01	0803047-09	03/12/08 21:27
MW-265M-20080306-01	0803047-02	03/12/08 22:29

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **T1031301**  
 Date Analyzed: **03/13/08 08:44**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	24.5	43397	Pass
75	95	30	60	51.1	90472	Pass
95	95	100	100	100	177152	Pass
96	95	5	9	6.1	10803	Pass
173	174	0	2	0	0	Pass
174	95	50	100	63.1	111861	Pass
175	174	5	9	7.8	8708	Pass
176	174	95	101	97.1	108616	Pass
177	176	5	9	6.4	6997	Pass

Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	I1031301	03/13/08 11:42
Initial Calibration	I1031302	03/13/08 12:12
Initial Calibration	I1031303	03/13/08 12:43
Initial Calibration	I1031304	03/13/08 13:14
Initial Calibration	I1031305	03/13/08 13:45
Initial Calibration	I1031306	03/13/08 14:15

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**

Project: **L0803236 - ERM BOSTON**

Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**

ETR: **0803047**

Lab ID: **T3031301**

Date Analyzed: **03/13/08 11:21**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	25.4	61944	Pass
75	95	30	60	56.5	137792	Pass
95	95	100	100	100	243712	Pass
96	95	5	9	6.8	16672	Pass
173	174	0	2	0	0	Pass
174	95	50	100	67.3	163904	Pass
175	174	5	9	7.3	12039	Pass
176	174	95	101	95.7	156928	Pass
177	176	5	9	6.8	10683	Pass

Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	I3031301	03/13/08 11:49
Initial Calibration	I3031302	03/13/08 12:17
Initial Calibration	I3031303	03/13/08 12:45
Initial Calibration	I3031304	03/13/08 13:14
Initial Calibration	I3031305	03/13/08 13:42
Initial Calibration	I3031306	03/13/08 14:10

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: N/A SDG: N/A

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **T1031302**  
 Date Analyzed: **03/13/08 16:18**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	20.6	42256	Pass
75	95	30	60	47	96448	Pass
95	95	100	100	100	205376	Pass
96	95	5	9	6.5	13449	Pass
173	174	0	2	0	0	Pass
174	95	50	100	68.7	141099	Pass
175	174	5	9	7.9	11150	Pass
176	174	95	101	96.6	136320	Pass
177	176	5	9	6.8	9229	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C1031303	03/13/08 16:49
LCS	VW031308LCS04	03/13/08 17:20
LCSD	VW031308LCSD04	03/13/08 17:50
Blank	VW031308B08	03/13/08 18:52
MW-261S-20080306-01	0803047-01	03/13/08 19:56
MW-268M-20080306-01	0803047-07	03/13/08 20:29
DUP-001-20080306-01	0803047-12	03/13/08 21:02
DUP-002-20080306-01	0803047-13	03/13/08 21:36
MW-266Mb-20080306-01	0803047-04	03/13/08 22:09
MW-267M-20080306-01	0803047-06	03/13/08 22:42
MW-552-20080306-01	0803047-10	03/13/08 23:16

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **T3031401**  
 Date Analyzed: **03/14/08 08:51**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	27.1	52371	Pass
75	95	30	60	57.6	111309	Pass
95	95	100	100	100	193152	Pass
96	95	5	9	6.3	12223	Pass
173	174	0	2	0	0	Pass
174	95	50	100	65.8	127163	Pass
175	174	5	9	7.5	9592	Pass
176	174	95	101	99.1	125968	Pass
177	176	5	9	6.9	8721	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C3031401	03/14/08 09:19
LCS	VW031408LCS03	03/14/08 09:48
LCSD	VW031408LCSD03	03/14/08 10:16
Blank	VW031408B04	03/14/08 10:44
MW-267S-20080306-01	0803047-05E	03/14/08 11:15
MW-553-20080306-01	0803047-11	03/14/08 12:17

N/A - Not Applicable

# Form VI

## Initial Calibration Summary

### Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**  
 ETR: **0803047**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031201	03/12/08 09:10
I1031202	03/12/08 09:41
I1031204	03/12/08 10:42
I1031205	03/12/08 11:13
I1031206	03/12/08 11:44
I1031207	03/12/08 14:17

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
Dichlorodifluoromethane	0.88	1.12	1.34	1.53	1.37	1.51	1.29	19.2 <sup>a</sup>
Chloromethane	0.99	1.26	1.35	1.54	1.39	1.48	1.34	14.7
Vinyl chloride	0.65	0.84	0.92	1.05	0.99	1.02	0.91	16.3
Chloroethane	0.32	0.43	0.42	0.48	0.23	0.47	0.39	24.5 <sup>a</sup>
1,1-Dichloroethene	1.42	1.48	1.52	1.45	1.34	1.35	1.43	5.1
Methylene chloride		1.17	1.09	1.08	1.04	1.04	1.08	5.1
trans-1,2-Dichloroethene	1.32	1.55	1.56	1.50	1.40	1.39	1.45	6.6
1,1-Dichloroethane	1.80	2.02	1.92	1.87	1.75	1.78	1.86	5.4
cis-1,2-Dichloroethene	1.48	1.61	1.65	1.54	1.51	1.48	1.55	4.6
1,1,1-Trichloroethane	1.30	1.52	1.51	1.48	1.41	1.40	1.44	5.8
Carbon tetrachloride	1.27	1.41	1.39	1.37	1.29	1.30	1.34	4.3
1,2-Dichloroethane	1.41	1.63	1.56	1.53	1.40	1.43	1.50	6.3
Trichloroethene	0.44	0.48	0.47	0.46	0.47	0.45	0.46	3.2
1,2-Dichloropropane	0.48	0.53	0.50	0.49	0.49	0.47	0.49	3.8
Bromodichloromethane	0.66	0.71	0.69	0.68	0.69	0.65	0.68	3.0
cis-1,3-Dichloropropene	0.74	0.82	0.82	0.81	0.80	0.77	0.79	4.0
trans-1,3-Dichloropropene	0.60	0.74	0.75	0.74	0.74	0.68	0.71	8.3
1,1,2-Trichloroethane	0.35	0.43	0.40	0.40	0.40	0.38	0.39	6.8
Tetrachloroethene	0.35	0.38	0.38	0.39	0.41	0.36	0.38	5.3
1,3-Dichloropropane	0.69	0.81	0.77	0.77	0.77	0.73	0.75	5.4
Dibromochloromethane	0.51	0.59	0.61	0.62	0.63	0.57	0.59	7.6
1,2-Dibromoethane	0.46	0.53	0.53	0.54	0.55	0.49	0.52	6.9
Chlorobenzene	0.85	0.90	0.86	0.86	0.88	0.82	0.86	3.0
1,1,1,2-Tetrachloroethane	0.30	0.34	0.35	0.35	0.34	0.32	0.33	5.9
Bromoform	0.18	0.23	0.25	0.25	0.26	0.21	0.23	12.6
1,1,1,2,2-Tetrachloroethane	0.40	0.45	0.48	0.48	0.47	0.44	0.45	6.9
2-Chlorotoluene	0.80	0.88	0.90	0.89	0.91	0.83	0.87	5.1
4-Chlorotoluene	0.93	1.03	1.07	1.05	1.07	0.95	1.02	5.9
1,3-Dichlorobenzene	0.53	0.57	0.62	0.63	0.64	0.57	0.59	7.4
1,4-Dichlorobenzene	0.54	0.62	0.66	0.66	0.69	0.58	0.63	8.9
1,2-Dichlorobenzene	0.50	0.56	0.62	0.63	0.65	0.56	0.59	9.5
1,2,4-Trichlorobenzene	0.23	0.25	0.30	0.31	0.33	0.27	0.28	13.6

N/A - Not Applicable

<sup>a</sup> - Value outside of QC advisory limits.

**Form VI  
Initial Calibration Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**

Lab ID	Date/Time Analyzed
11031201	03/12/08 09:10
11031202	03/12/08 09:41
11031204	03/12/08 10:42
11031205	03/12/08 11:13
11031206	03/12/08 11:44
11031207	03/12/08 14:17

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
Hexachlorobutadiene	0.081	0.079	0.092	0.094	0.098	0.085	0.088	8.5
Dibromofluoromethane	0.89	0.90	0.90	0.89	0.82	0.88	0.88	3.3
1,2-Dichloroethane-d4	0.81	0.83	0.83	0.82	0.74	0.81	0.81	4.0
Toluene-d8	1.23	1.24	1.25	1.25	1.26	1.24	1.25	0.9
4-Bromofluorobenzene	0.55	0.56	0.59	0.58	0.57	0.57	0.57	2.4
Average RSD								7.3

N/A - Not Applicable



# Form VI Initial Calibration Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**  
ETR: **0803047**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031301	03/13/08 11:42
I1031302	03/13/08 12:12
I1031303	03/13/08 12:43
I1031304	03/13/08 13:14
I1031305	03/13/08 13:45
I1031306	03/13/08 14:15

### Response Factors

Parameter	2	5	20	50	100	200	Mean	% RSD
Dichlorodifluoromethane	1.45	1.45	1.52	1.65	1.55	1.35	1.50	6.9
Chloromethane	1.78	1.56	1.49	1.64	1.56	1.42	1.58	7.9
Vinyl chloride	1.05	1.01	1.09	1.18	1.10	0.97	1.07	6.8
Chloroethane	0.59	0.51	0.49	0.54	0.51	0.41	0.51	11.8
1,1-Dichloroethene	1.51	1.35	1.36	1.44	1.37	1.22	1.37	7.1
Methylene chloride		1.05	1.01	1.08	1.05	0.99	1.04	3.4
trans-1,2-Dichloroethene	1.67	1.45	1.45	1.56	1.47	1.31	1.49	8.0
1,1-Dichloroethane	2.07	1.87	1.79	1.98	1.83	1.67	1.87	7.5
cis-1,2-Dichloroethene	1.83	1.57	1.59	1.70	1.64	1.45	1.63	8.0
1,1,1-Trichloroethane	1.70	1.48	1.48	1.56	1.50	1.36	1.51	7.5
Carbon tetrachloride	1.53	1.35	1.34	1.43	1.35	1.23	1.37	7.3
1,2-Dichloroethane	1.64	1.65	1.58	1.71	1.63	1.38	1.60	7.0
Trichloroethene	0.58	0.49	0.44	0.49	0.48	0.46	0.49	10.3
1,2-Dichloropropane	0.53	0.50	0.49	0.53	0.51	0.49	0.51	3.9
Bromodichloromethane	0.73	0.68	0.67	0.75	0.73	0.69	0.71	5.0
cis-1,3-Dichloropropene	0.81	0.77	0.78	0.87	0.85	0.81	0.81	4.9
trans-1,3-Dichloropropene	0.69	0.68	0.71	0.79	0.78	0.73	0.73	6.3
1,1,2-Trichloroethane	0.40	0.40	0.39	0.42	0.42	0.40	0.40	3.1
Tetrachloroethene	0.40	0.35	0.34	0.39	0.39	0.40	0.38	7.2
1,3-Dichloropropane	0.76	0.77	0.75	0.81	0.81	0.76	0.77	3.6
Dibromochloromethane	0.61	0.54	0.57	0.64	0.64	0.63	0.60	6.9
1,2-Dibromoethane	0.50	0.49	0.49	0.55	0.56	0.53	0.52	5.5
Chlorobenzene	0.95	0.83	0.80	0.88	0.88	0.86	0.87	5.9
1,1,1,2-Tetrachloroethane	0.35	0.32	0.32	0.36	0.35	0.33	0.34	5.2
Bromoform	0.20	0.19	0.22	0.24	0.25	0.24	0.22	10.9
1,1,1,2,2-Tetrachloroethane	0.42	0.42	0.45	0.48	0.47	0.44	0.45	5.4
2-Chlorotoluene	0.98	0.84	0.84	0.96	0.92	0.90	0.91	6.4
4-Chlorotoluene	1.03	0.92	0.99	1.12	1.09	1.07	1.04	7.0
1,3-Dichlorobenzene	0.57	0.53	0.56	0.65	0.64	0.63	0.60	8.5
1,4-Dichlorobenzene	0.63	0.57	0.61	0.69	0.68	0.67	0.64	7.2
1,2-Dichlorobenzene	0.56	0.53	0.57	0.64	0.64	0.62	0.59	8.0
1,2,4-Trichlorobenzene	0.26	0.24	0.27	0.32	0.32	0.32	0.29	12.4

N/A - Not Applicable

**Form VI  
Initial Calibration Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**  
ETR: **0803047**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031301	03/13/08 11:42
I1031302	03/13/08 12:12
I1031303	03/13/08 12:43
I1031304	03/13/08 13:14
I1031305	03/13/08 13:45
I1031306	03/13/08 14:15

Parameter	Response Factors						Mean	% RSD
	2	5	20	50	100	200		
Hexachlorobutadiene	0.11	0.083	0.083	0.097	0.096	0.095	0.094	10.7
Dibromofluoromethane	0.90	0.91	0.92	0.91	0.89	0.84	0.90	3.2
1,2-Dichloroethane-d4	0.85	0.91	0.90	0.88	0.84	0.74	0.85	7.1
Toluene-d8	1.28	1.27	1.26	1.30	1.30	1.31	1.29	1.5
4-Bromofluorobenzene	0.57	0.58	0.59	0.61	0.60	0.58	0.59	2.5
Average RSD								6.7

N/A - Not Applicable

# Form VI Initial Calibration Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**  
ETR: **0803047**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I3031301	03/13/08 11:49
I3031302	03/13/08 12:17
I3031303	03/13/08 12:45
I3031304	03/13/08 13:14
I3031305	03/13/08 13:42
I3031306	03/13/08 14:10

Parameter	Response Factors						Mean	% RSD
	2	5	20	50	100	200		
Dichlorodifluoromethane	0.83	0.85	0.86	0.86	0.84	0.76	0.83	4.5
Chloromethane	1.15	1.04	0.97	0.98	0.96	0.90	1.00	8.8
Vinyl chloride	0.79	0.75	0.72	0.73	0.71	0.66	0.73	6.0
Chloroethane	0.45	0.42	0.40	0.40	0.38		0.41	6.3
1,1-Dichloroethene	0.93	0.84	0.79	0.80	0.78	0.72	0.81	9.0
Methylene chloride	0.68	0.51	0.44	0.55	0.54	0.50	0.54	15.2 <sup>a</sup>
trans-1,2-Dichloroethene	1.02	0.91	0.89	0.94	0.93	0.86	0.92	6.0
1,1-Dichloroethane	1.36	1.21	1.16	1.23	1.20	1.10	1.21	7.3
cis-1,2-Dichloroethene	0.91	0.91	0.87	0.94	0.94	0.91	0.91	2.8
1,1,1-Trichloroethane	0.85	0.77	0.76	0.83	0.83	0.81	0.81	4.4
Carbon tetrachloride	0.68	0.58	0.54	0.60	0.61	0.61	0.60	7.7
1,2-Dichloroethane	1.06	1.00	0.95	1.00	1.01	0.95	0.99	4.1
Trichloroethene	0.25	0.21	0.20	0.22	0.22	0.22	0.22	7.2
1,2-Dichloropropane	0.28	0.25	0.25	0.27	0.27	0.26	0.26	4.2
Bromodichloromethane	0.30	0.28	0.28	0.31	0.32	0.32	0.30	6.1
cis-1,3-Dichloropropene	0.32	0.33	0.35	0.40	0.41	0.40	0.37	11.5
trans-1,3-Dichloropropene	0.30	0.29	0.32	0.37	0.39	0.39	0.34	13.0
1,1,2-Trichloroethane	0.19	0.18	0.18	0.19	0.19	0.19	0.19	3.7
Tetrachloroethene	0.18	0.17	0.16	0.17	0.17	0.17	0.17	3.9
1,3-Dichloropropane	0.38	0.37	0.38	0.42	0.42	0.40	0.39	5.0
Dibromochloromethane	0.17	0.16	0.17	0.19	0.20	0.21	0.18	10.8
1,2-Dibromoethane	0.18	0.18	0.18	0.20	0.20	0.20	0.19	4.9
Chlorobenzene	0.80	0.76	0.74	0.82	0.83	0.80	0.79	4.4
1,1,1,2-Tetrachloroethane	0.24	0.23	0.25	0.28	0.30	0.29	0.26	10.9
Bromoform	0.11	0.12	0.14	0.17	0.19	0.19	0.15	23.8 <sup>a</sup>
1,1,2,2-Tetrachloroethane	0.39	0.38	0.40	0.45	0.45	0.43	0.42	7.2
2-Chlorotoluene	0.77	0.75	0.82	0.96	0.97	0.95	0.87	11.6
4-Chlorotoluene	0.80	0.82	0.89	1.03	1.05	1.02	0.94	11.9
1,3-Dichlorobenzene	0.50	0.46	0.49	0.56	0.57	0.55	0.52	8.6
1,4-Dichlorobenzene	0.52	0.48	0.51	0.58	0.59	0.57	0.54	8.2
1,2-Dichlorobenzene	0.46	0.44	0.48	0.55	0.55	0.53	0.50	9.4
1,2,4-Trichlorobenzene	0.23	0.21	0.23	0.28	0.30	0.29	0.26	15.5 <sup>a</sup>

N/A - Not Applicable

<sup>a</sup> - Value outside of QC advisory limits.

**Form VI  
Initial Calibration Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**  
ETR: **0803047**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I3031301	03/13/08 11:49
I3031302	03/13/08 12:17
I3031303	03/13/08 12:45
I3031304	03/13/08 13:14
I3031305	03/13/08 13:42
I3031306	03/13/08 14:10

Parameter	Response Factors						Mean	% RSD
	2	5	20	50	100	200		
Hexachlorobutadiene	0.11	0.073	0.079	0.089	0.092	0.091	0.088	12.8
Dibromofluoromethane	0.59	0.58	0.59	0.59	0.58	0.57	0.58	1.5
1,2-Dichloroethane-d4	0.97	0.94	0.96	0.95	0.97	0.94	0.95	1.4
Toluene-d8	1.01	1.02	1.01	0.99	1.00	0.99	1.00	1.1
4-Bromofluorobenzene	0.52	0.52	0.52	0.53	0.53	0.52	0.52	0.9
Average RSD								7.6

N/A - Not Applicable

# Form VII Calibration Verification Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **C1031201**

Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
Dichlorodifluoromethane	1.29	1.22	5.3	30
Chloromethane	1.34	1.25	6.4	30
Vinyl chloride	0.91	0.86	6.0	20
Chloroethane	0.39	0.40	0.6	30
1,1-Dichloroethene	1.43	1.42	0.2	20
Methylene chloride	1.08	1.06	2.3	30
trans-1,2-Dichloroethene	1.45	1.47	0.8	30
1,1-Dichloroethane	1.86	1.81	2.6	30
cis-1,2-Dichloroethene	1.55	1.53	1.1	30
1,1,1-Trichloroethane	1.44	1.44	0.1	30
Carbon tetrachloride	1.34	1.32	1.6	30
1,2-Dichloroethane	1.50	1.49	0.8	30
Trichloroethene	0.46	0.47	2.0	30
1,2-Dichloropropane	0.49	0.49	0.6	20
Bromodichloromethane	0.68	0.69	1.1	30
cis-1,3-Dichloropropene	0.79	0.81	1.4	30
trans-1,3-Dichloropropene	0.71	0.73	2.7	30
1,1,2-Trichloroethane	0.39	0.40	3.0	30
Tetrachloroethene	0.38	0.38	1.5	30
1,3-Dichloropropane	0.75	0.77	2.6	30
Dibromochloromethane	0.59	0.62	4.6	30
1,2-Dibromoethane	0.52	0.54	3.8	30
Chlorobenzene	0.86	0.86	0.6	30
1,1,1,2-Tetrachloroethane	0.33	0.34	2.3	30
Bromoform	0.23	0.25	6.4	30
1,1,1,2,2-Tetrachloroethane	0.45	0.47	3.8	30
2-Chlorotoluene	0.87	0.88	1.7	30
4-Chlorotoluene	1.02	1.03	1.5	30
1,3-Dichlorobenzene	0.59	0.61	3.8	30
1,4-Dichlorobenzene	0.63	0.64	2.2	30
1,2-Dichlorobenzene	0.59	0.61	4.8	30
1,2,4-Trichlorobenzene	0.28	0.30	4.8	30
Hexachlorobutadiene	0.088	0.090	2.0	30
Dibromofluoromethane	0.88	0.87	1.5	30
1,2-Dichloroethane-d4	0.81	0.79	1.9	30
Toluene-d8	1.25	1.28	2.4	30
4-Bromofluorobenzene	0.57	0.58	1.0	30
Average % D			2.5	

N/A - Not Applicable

# Form VII Calibration Verification Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
Project: **L0803236 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803047**

Lab ID: **C1031303**

Case: **N/A**      SDG: **N/A**

Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
Dichlorodifluoromethane	1.50	1.45	3.0	30
Chloromethane	1.58	1.40	11.2	30
Vinyl chloride	1.07	0.98	8.2	20
Chloroethane	0.51	0.46	9.1	30
1,1-Dichloroethene	1.37	1.27	7.5	20
Methylene chloride	1.04	1.01	2.6	30
trans-1,2-Dichloroethene	1.49	1.35	9.0	30
1,1-Dichloroethane	1.87	1.72	8.3	30
cis-1,2-Dichloroethene	1.63	1.51	7.1	30
1,1,1-Trichloroethane	1.51	1.40	7.6	30
Carbon tetrachloride	1.37	1.26	8.0	30
1,2-Dichloroethane	1.60	1.50	6.0	30
Trichloroethene	0.49	0.47	4.8	30
1,2-Dichloropropane	0.51	0.49	3.1	20
Bromodichloromethane	0.71	0.70	2.0	30
cis-1,3-Dichloropropene	0.81	0.80	1.4	30
trans-1,3-Dichloropropene	0.73	0.73	0.5	30
1,1,2-Trichloroethane	0.40	0.40	1.0	30
Tetrachloroethene	0.38	0.38	0.3	30
1,3-Dichloropropane	0.77	0.76	2.5	30
Dibromochloromethane	0.60	0.62	2.2	30
1,2-Dibromoethane	0.52	0.53	2.4	30
Chlorobenzene	0.87	0.84	3.1	30
1,1,1,2-Tetrachloroethane	0.34	0.33	1.5	30
Bromoform	0.22	0.23	3.9	30
1,1,2,2-Tetrachloroethane	0.45	0.44	2.1	30
2-Chlorotoluene	0.91	0.87	4.0	30
4-Chlorotoluene	1.04	1.03	1.0	30
1,3-Dichlorobenzene	0.60	0.61	1.8	30
1,4-Dichlorobenzene	0.64	0.64	0.3	30
1,2-Dichlorobenzene	0.59	0.60	0.7	30
1,2,4-Trichlorobenzene	0.29	0.30	2.1	30
Hexachlorobutadiene	0.094	0.089	5.7	30
Dibromofluoromethane	0.90	0.88	2.1	30
1,2-Dichloroethane-d4	0.85	0.80	6.6	30
Toluene-d8	1.29	1.31	1.3	30
4-Bromofluorobenzene	0.59	0.59	0.1	30
Average % D			3.9	

N/A - Not Applicable

# Form VII Calibration Verification Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **C3031401**

Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
Dichlorodifluoromethane	0.83	0.88	5.6	30
Chloromethane	1.00	1.01	1.3	30
Vinyl chloride	0.73	0.78	6.7	20
Chloroethane	0.41	0.44	7.0	30
1,1-Dichloroethene	0.81	0.88	8.3	20
Methylene chloride	0.54	0.49	9.2	30
trans-1,2-Dichloroethene	0.92	0.94	2.3	30
1,1-Dichloroethane	1.21	1.25	3.1	30
cis-1,2-Dichloroethene	0.91	0.95	3.9	30
1,1,1-Trichloroethane	0.81	0.82	1.6	30
Carbon tetrachloride	0.60	0.57	6.2	30
1,2-Dichloroethane	0.99	1.05	5.6	30
Trichloroethene	0.22	0.22	1.1	30
1,2-Dichloropropane	0.26	0.26	0.4	20
Bromodichloromethane	0.30	0.30	0.3	30
cis-1,3-Dichloropropene	0.37	0.39	5.7	30
trans-1,3-Dichloropropene	0.34	0.37	6.3	30
1,1,2-Trichloroethane	0.19	0.19	0.6	30
Tetrachloroethene	0.17	0.17	0.6	30
1,3-Dichloropropane	0.39	0.40	2.4	30
Dibromochloromethane	0.18	0.18	0.2	30
1,2-Dibromoethane	0.19	0.19	0.8	30
Chlorobenzene	0.79	0.84	6.0	30
1,1,1,2-Tetrachloroethane	0.26	0.28	5.4	30
Bromoform	0.15	0.17	7.9	30
1,1,2,2-Tetrachloroethane	0.42	0.46	9.8	30
2-Chlorotoluene	0.87	0.98	13.0	30
4-Chlorotoluene	0.94	1.08	15.1	30
1,3-Dichlorobenzene	0.52	0.58	12.0	30
1,4-Dichlorobenzene	0.54	0.59	10.2	30
1,2-Dichlorobenzene	0.50	0.57	13.0	30
1,2,4-Trichlorobenzene	0.26	0.28	8.8	30
Hexachlorobutadiene	0.088	0.092	4.0	30
Dibromofluoromethane	0.58	0.60	3.4	30
1,2-Dichloroethane-d4	0.95	1.02	7.0	30
Toluene-d8	1.00	1.00	0.2	30
4-Bromofluorobenzene	0.52	0.53	0.8	30
Average % D			5.3	

N/A - Not Applicable

# Form VIII Internal Standard Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **C1031201**

	Pentafluorobenzene		Fluorobenzene		Chlorobenzene-D5	
	Area	RT	Area	RT	Area	RT
Standard:	309617	5.67	707642	6.40	1005235	10.67
Upper Limit:	619234	6.17	1415284	6.90	2010470	11.17
Lower Limit:	154808	5.17	353821	5.90	502618	10.17

Client ID	Lab ID	Area	RT	Area	RT	Area	RT
LCS	VW031208LCS01	315245	5.67	722079	6.40	1000948	10.66
LCSD	VW031208LCSD01	311768	5.67	709298	6.40	1003320	10.67
Blank	VW031208B02	299831	5.67	689387	6.40	954353	10.66
TB-001-20080306-01	0803047-14	295331	5.67	669932	6.40	938054	10.67
MW-266Ma-20080306-01	0803047-03	264297	5.66	612347	6.39	874901	10.65
MW-267S-20080306-01	0803047-05	257676	5.66	599865	6.39	846262	10.65
MW-268D-20080306-01	0803047-08	245299	5.66	580923	6.39	821454	10.65
MW-551-20080306-01	0803047-09	247253	5.65	586248	6.39	827947	10.65
MW-265M-20080306-01	0803047-02	240338	5.65	580633	6.38	812238	10.65

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.  
 Area Lower Limit = -50% of internal standard.  
 RT = Retention Time.  
 RT Upper Limit = +0.5 minutes of internal standard RT.  
 RT Lower Limit = -0.5 minutes of internal standard RT.



**Form VIII  
Internal Standard Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **C1031303**

	Pentafluorobenzene		Fluorobenzene		Chlorobenzene-D5		
	Area	RT	Area	RT	Area	RT	
Standard:	300650	5.63	681462	6.37	998678	10.63	
Upper Limit:	601300	6.13	1362924	6.87	1997356	11.13	
Lower Limit:	150325	5.13	340731	5.87	499339	10.13	
Client ID	Lab ID						
LCS	VW031308LCS04	306283	5.64	683768	6.37	987486	10.63
LCSD	VW031308LCSD04	304003	5.64	675769	6.37	975180	10.63
Blank	VW031308B08	290770	5.64	666016	6.37	933650	10.63
MW-261S-20080306-01	0803047-01	267004	5.64	627426	6.37	882118	10.63
MW-268M-20080306-01	0803047-07	271639	5.64	623288	6.37	880136	10.63
DUP-001-20080306-01	0803047-12	257177	5.64	607178	6.37	862728	10.63
DUP-002-20080306-01	0803047-13	248110	5.64	585276	6.37	839672	10.63
MW-266Mb-20080306-01	0803047-04	241250	5.64	567830	6.37	798437	10.63
MW-267M-20080306-01	0803047-06	233537	5.64	541804	6.37	787670	10.63
MW-552-20080306-01	0803047-10	225033	5.64	552794	6.37	780704	10.63

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.  
 Area Lower Limit = -50% of internal standard.  
 RT = Retention Time.  
 RT Upper Limit = +0.5 minutes of internal standard RT.  
 RT Lower Limit = -0.5 minutes of internal standard RT.

# Form VIII Internal Standard Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803236 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803047**  
 Lab ID: **C3031401**

	Pentafluorobenzene		Fluorobenzene		Chlorobenzene-D5		
	Area	RT	Area	RT	Area	RT	
Standard:	621796	6.37	1605667	7.16	1052776	11.54	
Upper Limit:	1243592	6.87	3211334	7.66	2105552	12.04	
Lower Limit:	310898	5.87	802834	6.66	526388	11.04	
Client ID	Lab ID						
LCS	VW031408LCS03	624149	6.37	1624237	7.16	1037136	11.54
LCSD	VW031408LCSD03	629953	6.37	1629658	7.16	1045341	11.54
Blank	VW031408B04	583074	6.37	1576351	7.16	983660	11.54
MW-267S-20080306-01	0803047-05E	579310	6.37	1535049	7.16	966649	11.54
MW-553-20080306-01	0803047-11	558339	6.37	1491975	7.16	932559	11.54

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.  
 Area Lower Limit = -50% of internal standard.  
 RT = Retention Time.  
 RT Upper Limit = +0.5 minutes of internal standard RT.  
 RT Lower Limit = -0.5 minutes of internal standard RT.

# Chain of Custody Records



# CHAIN OF CUSTODY

**ALPHA**  
MOORE, ROY & ASSOCIATES, INC.  
 WESTBORO, MA  
 TEL: 508-899-9220  
 FAX: 508-899-9193

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

**Client Information**  
 Client: ERM-Boston  
 Address: 399 Boston St. 1st Fl.  
Boston MA 02116  
 Phone: 617-646-7800  
 Fax: 617-267-6447  
 Email: Jason.Flattery@erm.com

Project #: 0279337  
 Project Location: Wayland, MA  
 Project Manager: Jason Flattery  
 ALPHA Quote #:

Turn-Around Time  
 Standard  RUSH (only confirmed if pre-approved!)  
 Date Due: 3/14/08 Time:

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab: 3/7/08 ALPHA Job #: 20803236  
**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: Method 1 GW-1  
 MAMCP PRESUMPTIVE CERTAINTY ... CT REASONABLE CONFIDENCE PROTOCOLS  
 Yes  No  No Are MCP Analytical Methods Required?  
 Yes  No Are CT RCP (Reasonable Confidence Protocols) Required?

**ANALYSIS**  
 CVOCS 80218 by 8260  
 Total Phosphorus  
 Sulfate & Nitrate  
 Diss. Fe (field filtered)  
 TOC

**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		Sample Matrix	Sampler's Initials	Date	Time	Date/Time	Container Type	Date/Time	Received By	Date/Time	Sample Specific Comments
		Date	Time										
03236.11	MW.553.20080306-01	3/6/08	16:41	GW	JDF	2	1	1	1	2			
12	DWP-001-20080306-01		24:00		EB	2	1	1	1	2			
13	DWP-002-20080306-01		24:00		JDF	2							
14	TB-001-20080306-01	2/4/08	19:30	TB	KOSB	1							

**PLEASE ANSWER QUESTIONS ABOVE!**  
 Relinquished By: [Signature] Date/Time: 3/10/08 11:15  
 Received By: [Signature] Date/Time: 3/7/08 17:15

**IS YOUR PROJECT MA MCP or CT RCP?**  
 FORM NO: 01-01 (Rev. 10-01-05)

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



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

MANFIELD, MA  
TEL: 508-822-8900  
FAX: 508-822-3288

# CHAIN OF CUSTODY

PAGE 1 of 2

To: Mansfield

**Project Information**

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Project #: \_\_\_\_\_

Project Manager: Mary Davis

ALPHA Quote #: \_\_\_\_\_

Client: Alpha Analytical

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Turn-Around Time: \_\_\_\_\_

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 3/14/08 Time: \_\_\_\_\_

Other Project Specific Requirements/Comments/Detection Limits: \_\_\_\_\_

Date Rec'd In Lab: \_\_\_\_\_

**Report Information - Data Deliverables**

FAX  EMAIL

ADEX  Add'l Deliverables

**Regulatory/Requirements/Report Limits**

State/Fed Program: \_\_\_\_\_

Criteria: \_\_\_\_\_

Are MCP Analytical Methods Required?  Yes  No

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

**Alpha Job #:** 0803047

**Billing Information**

Same as Client info  PO #: \_\_\_\_\_

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
1	<u>L0803236-D1</u>	<u>3/6/08</u>	<u>1200</u>	<u>Geo</u>	<u>X</u>
2	<u>-02</u>	<u>0945</u>			<u>X</u>
3	<u>-03</u>	<u>1345</u>			<u>X</u>
4	<u>-04</u>	<u>1525</u>			<u>X</u>
5	<u>-05</u>	<u>1000</u>			<u>X</u>
6	<u>-06</u>	<u>1120</u>			<u>X</u>
7	<u>-07</u>	<u>1145</u>			<u>X</u>
8	<u>-08</u>	<u>1330</u>			<u>X</u>
9	<u>-09</u>	<u>1630</u>			<u>X</u>
10	<u>-10</u>	<u>1442</u>			<u>X</u>

**ANALYSIS**

C.VOC'S 8021 by 8260

**SAMPLE HANDLING**

Filtration  Done

Not needed

Lab to do

Preservation

Lab to do

(Please specify below)

Sample Specific Comments: \_\_\_\_\_

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Date/Time	Container Type Preservative	Relinquished By:	Date/Time	Received By:	Date/Time	Sample Specific Comments
		Date	Time									
1	<u>L0803236-D1</u>	<u>3/6/08</u>	<u>1200</u>	<u>Geo</u>	<u>X</u>			<u>Paul Bellini</u>	<u>3/11/08</u>	<u>Paul Bellini</u>	<u>3/11/08 18:15</u>	
2	<u>-02</u>	<u>0945</u>			<u>X</u>							
3	<u>-03</u>	<u>1345</u>			<u>X</u>							
4	<u>-04</u>	<u>1525</u>			<u>X</u>							
5	<u>-05</u>	<u>1000</u>			<u>X</u>							
6	<u>-06</u>	<u>1120</u>			<u>X</u>							
7	<u>-07</u>	<u>1145</u>			<u>X</u>							
8	<u>-08</u>	<u>1330</u>			<u>X</u>							
9	<u>-09</u>	<u>1630</u>			<u>X</u>							
10	<u>-10</u>	<u>1442</u>			<u>X</u>							

**PLEASE ANSWER QUESTIONS ABOVE!**

**IS YOUR PROJECT MA MCP or CT RCP?**

Relinquished By: Paul Bellini Date/Time: 3/11/08 18:15

Received By: Paul Bellini Date/Time: 3/11/08 18:15

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.





Sample Delivery Group Form

Laboratory Job No: LC803236
Receipt Date/Time: 3/7/08 1715

Client: EQM-MA
SDG Reviewer: wjm

Samples Delivered By:
[ ] Alpha Courier [ ] Client [ ] UPS [ ] FedEx [ ] Other
Bill of Laden: [ ] Yes [ ] Unavailable Tracking #:
Chain of Custody: [ ] Present [ ] Absent
Custody Seals: [ ] Absent [ ] Present/Intact [ ] Present/Broken

Cooler/Sample Temperature:
Is Ice/Blue Ice present? [ ] Yes [ ] No [ ] N/A
Temp taken from: Temp Blank: (a) 2.2 (b) (c) (d) (e)
IR Gun: (a) (b) (c) (d) (e)
Was Temp: [ ] 2-6 Celsius
[ ] <2 Celsius ... were samples frozen upon receipt? [ ] Yes [ ] No
[ ] >6 Celsius ... were samples delivered direct from site? [ ] Yes [ ] No

Containers Received: [ ] Intact [ ] Broken/Leaking
Sample IDs:
Sample IDs:

All Containers Accounted For? [ ] Yes [ ] No
Extra Samples Received? [ ] Yes [ ] No
Do Sample Labels and COC agree? [ ] Yes [ ] No

Are Samples in Appropriate Containers? [ ] Yes [ ] No
Are samples rec'd within holding time? [ ] Yes [ ] No
\* Please note: the analysis of pH will always be performed beyond the regulatory-required holding time of 15 min. from the time of collection.

pH of samples upon receipt: [ ] N/A [ ] <2 [ ] >12 and/or [ ] 7
Are samples properly preserved? [ ] Yes [ ] No If No then.....
Initial pH= preserved In-House with [ ] HCL [ ] H2SO4 [ ] HNO3 <<Final pH = >>
Other Issues:
Chlorine Check: [ ] N/A [ ] Present [ ] Absent

VOANPH vials: [ ] Yes [ ] No
Aqueous: vials contain head space? [ ] Yes [ ] No
Soils: MeOH covering soil? [ ] Yes [ ] No
Reagent H2O Preserved vials Frozen @ date/time:
Frozen by Client? [ ] No [ ] Yes @ date/time:

Was Client notified of any discrepancies listed above? [ ] Yes [ ] No [ ] N/A
If Yes: Call Tracker #



# Sample Receipt Checklist

Client: <u>Alpha Analytical</u>	Receipt Date: <u>3/11/08</u>
Project: <u>L0803236-ERM</u>	Log-in Date: <u>3/12/08</u>
ETR #: <u>0803047</u>	Inspection by: <u>Jm</u> Login by: <u>lr</u>

**ALL SECTIONS BELOW MUST BE COMPLETED**

**Comments / Notes**

Were samples shipped? Yes, FedEx / UPS / Other: _____ No, <input checked="" type="radio"/> Alpha Analytical Courier pick-up / <input type="radio"/> Hand delivered	Sample storage refrigerator #: <u>VOA</u>
Is bill of lading retained? Yes, Tracking #: _____ No, Unavailable / <input checked="" type="radio"/> NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: <u>1</u>	Cooler 2: _____ Cooler 3: _____ Cooler 4: _____ Cooler 5: _____ Cooler 6: _____ Cooler 7: _____ More: _____
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <b>Note: If all coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note all samples received above 6°C.</b> Cooler 1: Temperature(s) taken from: <u>5°</u> IR Gun, <u>6°</u> Temp. Blank, / NA	
Were samples received on ice? <input checked="" type="radio"/> Yes / No	
Chain-of-Custody present? <input checked="" type="radio"/> Yes / No Complete? <input checked="" type="radio"/> Yes / No	
Custody seals present on Cooler? Yes / <input checked="" type="radio"/> No on Bottles? Yes / <input checked="" type="radio"/> No Intact? Yes / No / <input checked="" type="radio"/> NA	
Note: Affix custody seals to back of this page.	
Were sample containers intact? <input checked="" type="radio"/> Yes / No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / <input checked="" type="radio"/> No / NA If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <input checked="" type="radio"/> NA If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="radio"/> Yes / No If No, list samples: →	
If chemical preservation is appropriate - Were samples field preserved? <input checked="" type="radio"/> Yes / No / NA <input checked="" type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO <sub>3</sub> <input type="checkbox"/> Other: _____ <input type="checkbox"/> U= Unknown	Chemical preservation OK for ALL samples? Yes / No / <input checked="" type="radio"/> N/A If No, list samples below:
Preservation (pH) verified at lab for EVERY bottle? <input checked="" type="radio"/> (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO NA If No, why?:	rec'd L0803236-14A <u>NOT ON COC</u>
Were samples received within hold time? <input checked="" type="radio"/> Yes / No If No, list samples: →	
Discrepancy between samples rec'd & COC? <input checked="" type="radio"/> Yes / No If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: _____ Date: _____	Please use back for any additional notes!

## Certificate/Approval Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

**Connecticut Department of Public Health** Certificate/Lab ID : PH-0141 - *Wastewater* (General Chemistry: EPA 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2; Metals: 200.8, 245.1; Organics: 608-PCB, ETPH)  
*Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9060; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

**Florida Department of Health** Certificate/Lab ID : E87814 - Primary NELAP Accreditation Authority for Air & Emissions. Secondary NELAP Accreditation for Wastewater and Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 335.2, SM2320B, SM2340B, SM2540G, SM4500NH<sub>3</sub>; Metals: 245.1; Organics: 608-PCB). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9065, Reactivity 7.3; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

**Louisiana Department of Environmental Quality** Certificate/Lab ID : 03090 - Primary NELAP Accrediting Authority for Wastewater, Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1, 6020; Organics: 608-PCB, 8015-DRO, 8081, 8082, 8260, 8270). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060, Reactivity 7.3; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO, 8081, 8082, 8260, 8270).

**Maine Department of Human Services** Certificate/Lab ID : MA0030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2; Metals: EPA 245.1; Organics: 608-PCB).

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2; Metals: EPA 245.1; Organics: EPA 608-PCB).

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, SM2540G; Metals: 200.8, 245.4; Organics: 608-PCB).

**New Jersey Department of Environmental Protection** Certificate/Lab ID : MA015 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1 6020; Organics: 608-PCB, 8081, 8082, 8260, 8270). *Solid & Hazardous Waste* (General Chemistry: EPA 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO, 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

**New York Department of Health** Certificate/Lab ID : 11627 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 376.2; Metals: 200.8, 245.1; Organics: 608-PCB). *Solid and Hazardous Waste* (General Chemistry: EPA 1010, 1311; : 200.8, 8030, 7041; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

**Rhode Island Department of Health** Certificate/Lab ID : LAO00289 - Chemistry: *Organic and Inorganic in Non-Portable Water, Wastewater/Sewage and Soil* (Refer to LADEQ and MADEP certificates for method numbers.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-02089 - Registered laboratory

**U.S. Army Corps of Engineers**

**Department of the Navy**



## ANALYTICAL REPORT

Lab Number: L0803223

Client: ERM-New England  
399 Boylston Street  
6th Floor  
Boston, MA 02116

ATTN: Jason Flattery

Project Name: RAYTHEON-WAYLAND

Project Number: 0079387

Report Date: 03/14/08

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (200305), NJ (MA935), RI (LAO00065), ME (2006012), 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:** 0079387

**Lab Number:** L0803223  
**Report Date:** 03/14/08

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>
L0803223-01	DEP-19M-20080306-01	WAYLAND, MA
L0803223-02	MW-264M-20080306-01	WAYLAND, MA

Project Name: RAYTHEON-WAYLAND

Lab Number: L0803223

Project Number: 0079387

Report Date: 03/14/08

### 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?	YES
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:** 0079387

**Lab Number:** L0803223  
**Report Date:** 03/14/08

### Case Narrative

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

#### MCP Related Narratives

##### Report Submission

The analysis of Volatile Organics by Method 8260B was performed at our Mansfield facility. The report is included as an addendum, and the results can be viewed on ADEx under Alpha Job L0803479.

##### Sample Receipt

The samples were Field Filtered for Dissolved Metals only.

##### Metals

In reference to question F:

All samples were analyzed for a subset of MCP elements 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:



Title: Technical Director/Representative

Date: 03/14/08

# METALS

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0803223**Project Number:** 0079387**Report Date:** 03/14/08**SAMPLE RESULTS**

Lab ID: L0803223-02

Date Collected: 03/06/08 14:45

Client ID: MW-264M-20080306-01

Date Received: 03/07/08

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
Dissolved Metals by MCP 6000/7000 series										
Iron, Dissolved	11		mg/l	0.05	1	03/08/08 13:45	03/10/08 13:43	EPA 3005A	60,6010B	AI



Project Name: RAYTHEON-WAYLAND

Lab Number: L0803223

Project Number: 0079387

Report Date: 03/14/08

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals by MCP 6000/7000 series for sample(s): 02 Batch: WG313976-1								
Iron, Dissolved	ND	mg/l	0.05	1	03/08/08 13:45	03/10/08 13:13	60,6010B	AI

### Prep Information

Digestion Method: EPA 3005A

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0803223

**Project Number:** 0079387

**Report Date:** 03/14/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals by MCP 6000/7000 series Associated sample(s): 02 Batch: WG313976-2 WG313976-3					
Iron, Dissolved	94	92	80-120	2	20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0803223**Project Number:** 0079387**Report Date:** 03/14/08**SAMPLE RESULTS**

**Lab ID:** L0803223-01  
**Client ID:** DEP-19M-20080306-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 03/06/08 16:15  
**Date Received:** 03/07/08  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry</b>									
Total Organic Carbon	1.0		mg/l	0.50	1	-	03/14/08 06:20	1,9060	DW



**Project Name:** RAYTHEON-WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0803223  
**Report Date:** 03/14/08

### SAMPLE RESULTS

**Lab ID:** L0803223-02  
**Client ID:** MW-264M-20080306-01  
**Sample Location:** WAYLAND, MA  
**Matrix:** Water

**Date Collected:** 03/06/08 14:45  
**Date Received:** 03/07/08  
**Field Prep:** Field Filtered

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry</b>									
Nitrogen, Nitrate	ND		mg/l	0.10	1	-	03/07/08 21:02	30,4500NO3-F	DD
Phosphorus, Total	0.05		mg/l	0.01	1	-	03/11/08 15:00	30,4500P-E	HS
Sulfate	28		mg/l	10	1	03/11/08 14:30	03/11/08 14:30	1,9038	ST
Total Organic Carbon	1.3		mg/l	0.50	1	-	03/14/08 06:20	1,9060	DW



Project Name: RAYTHEON-WAYLAND

Lab Number: L0803223

Project Number: 0079387

Report Date: 03/14/08

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

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry for sample(s): 02 Batch: WG313918-2								
Nitrogen, Nitrate	ND	mg/l	0.10	1	-	03/07/08 20:38	30,4500NO3-F	DD
General Chemistry for sample(s): 02 Batch: WG314166-1								
Sulfate	ND	mg/l	10	1	03/11/08 14:30	03/11/08 14:30	1,9038	ST
General Chemistry for sample(s): 02 Batch: WG314220-1								
Phosphorus, Total	ND	mg/l	0.01	1	-	03/11/08 15:00	30,4500P-E	HS
General Chemistry for sample(s): 01-02 Batch: WG314534-1								
Total Organic Carbon	ND	mg/l	0.50	1	-	03/14/08 06:20	1,9060	DW

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0079387

**Lab Number:** L0803223

**Report Date:** 03/14/08

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Associated sample(s): 02 Batch: WG313918-1					
Nitrogen, Nitrate	102	-	90-110	-	
Associated sample(s): 02 Batch: WG314166-2					
Sulfate	105	-	84-108	-	
Associated sample(s): 02 Batch: WG314220-2					
Phosphorus, Total	105	-	85-115	-	
Associated sample(s): 01-02 Batch: WG314534-2					
Total Organic Carbon	98	-	90-110	-	

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Lab Number:** L0803223

**Project Number:** 0079387

**Report Date:** 03/14/08

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery	
				%Recovery	MSD Found	%Recovery	Limits	RPD	RPD Limits
Associated sample(s): 02    QC Batch ID: WG313918-3    QC Sample: L0803212-02    Client ID: MS Sample									
Nitrogen, Nitrate	11	4	15	100	-	-	83-120	-	6
Associated sample(s): 02    QC Batch ID: WG314166-3    QC Sample: L0803236-11    Client ID: MS Sample									
Sulfate	25	40	70	112	-	-	55-147	-	14
Associated sample(s): 02    QC Batch ID: WG314220-4    QC Sample: L0803236-02    Client ID: MS Sample									
Phosphorus, Total	ND	0.5	0.49	99	-	-	80-120	-	20
Associated sample(s): 01-02    QC Batch ID: WG314534-3    QC Sample: L0803236-06    Client ID: MS Sample									
Total Organic Carbon	1.2	4	5.0	94	-	-	80-120	-	20



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** RAYTHEON-WAYLAND

**Project Number:** 0079387

**Lab Number:** L0803223

**Report Date:** 03/14/08

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Associated sample(s): 02 QC Batch ID: WG313918-4 QC Sample: L0803212-01 Client ID: DUP Sample					
Nitrogen, Nitrate	12	12	mg/l	0	6
Associated sample(s): 02 QC Batch ID: WG314166-4 QC Sample: L0803236-11 Client ID: DUP Sample					
Sulfate	25	24	mg/l	4	14
Associated sample(s): 02 QC Batch ID: WG314220-3 QC Sample: L0803236-01 Client ID: DUP Sample					
Phosphorus, Total	0.04	0.04	mg/l	5	20
Associated sample(s): 01-02 QC Batch ID: WG314534-4 QC Sample: L0803236-04 Client ID: DUP Sample					
Total Organic Carbon	1.1	1.0	mg/l	10	20

**Project Name:** RAYTHEON-WAYLAND**Lab Number:** L0803223**Project Number:** 0079387**Report Date:** 03/14/08**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0803223-01A	Vial HCl preserved	A	N/A	2.2C	Y	Absent	SUB-MAN-8260
L0803223-01B	Vial HCl preserved	A	N/A	2.2C	Y	Absent	SUB-MAN-8260
L0803223-01C	Vial H2SO4 preserved	A	N/A	2.2C	Y	Absent	TOC-9060
L0803223-01D	Vial H2SO4 preserved	A	N/A	2.2C	Y	Absent	TOC-9060
L0803223-02A	Vial HCl preserved	A	N/A	2.2C	Y	Absent	SUB-MAN-8260
L0803223-02B	Vial HCl preserved	A	N/A	2.2C	Y	Absent	SUB-MAN-8260
L0803223-02C	Vial H2SO4 preserved	A	N/A	2.2C	Y	Absent	TOC-9060
L0803223-02D	Vial H2SO4 preserved	A	N/A	2.2C	Y	Absent	TOC-9060
L0803223-02E	Plastic 250ml HNO3 preserved	A	<2	2.2C	Y	Absent	MCP-FE-6010S
L0803223-02F	Plastic 500ml unpreserved	A	7	2.2C	Y	Absent	NO3-4500,SO4-9038
L0803223-02G	Plastic 500ml H2SO4 preserved	A	<2	2.2C	Y	Absent	TPHOS-4500

**Project Name:** RAYTHEON-WAYLAND  
**Project Number:** 0079387

**Lab Number:** L0803223  
**Report Date:** 03/14/08

## 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:** 0079387

**Lab Number:** L0803223  
**Report Date:** 03/14/08

## 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 Woods Hole Labs 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 Woods Hole Labs 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.







## ANALYTICAL REPORT

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**Prepared for:**  
**Alpha Analytical - Westborough**  
**8 Walkup Drive**  
**Westborough, MA 01581**

**Project:** L0803223 - ERM BOSTON  
**ETR:** 0803046  
**Report Date:** March 14, 2008

### **Certifications and Accreditations**

**Massachusetts M-MA030**  
**Connecticut PH-0141**  
**New Hampshire 2206**  
**Rhode Island LAO00289**  
**New Jersey MA015**  
**Maine MA0030**  
**New York 11627**  
**Louisiana 03090**  
**Florida E87814**  
**Pennsylvania 68-02089**  
**Army Corps of Engineers**  
**Department of the Navy**

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**Sample ID Cross Reference**

Client: **Alpha Analytical - Westborough**  
Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**  
ETR: **0803046**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>
<u>0803046-01</u>	<u>DEP-19M-20080306-01</u>
<u>0803046-02</u>	<u>MW-264M-20080306-01</u>

# MADEP MCP Analytical Method Report Certification Form

**Laboratory Name:** Alpha Analytical

**Project Number:** 0803046

**Project Location:** MCP RTN #<sup>1</sup>:

**This Form provides certifications for the following data set: [Laboratory Sample ID Number(s)]:**

0803046-01 through 0803046-02

**Sample Matrices:**  **Groundwater**       **Soil/Sediment**       **Drinking Water**       **Other:**

**MCP SW-846 Methods used (as specified in MADEP Compendium of Analytical Methods)**

Check all that apply:

8260B (X)	8151A ( )	8330 ( )	6010B ( )	7470A/1A ( )
8270C ( )	8081A ( )	VPH ( )	6020 ( )	9014M <sup>2</sup> ( )
8082 ( )	8021B ( )	EPH ( )	7000 S <sup>3</sup> ( )	Other:

<sup>1</sup> – List Release Tracking Number (RTN), if known.

<sup>2</sup>M – SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method.

<sup>3</sup>S – SW-846 Methods 7000 Series. List individual method and analyte.

*An affirmative response to question A, B, C and D is required for "Presumptive Certainty" status.*

<b>A</b>	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No<sup>1</sup></b>
<b>B</b>	Were all QA/QC procedures required for the specified analytical method(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?	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No<sup>1</sup></b>
<b>C</b>	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No<sup>1</sup></b>
<b>D</b>	<b><i>VPH and EPH methods only:</i></b> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective Methods)?	<input type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No<sup>1</sup></b>

*A response to questions E and F below is required for "Presumptive Certainty" status.*

<b>E</b>	Were all analytical QC performance standards and recommendations for the specified methods achieved?	<input type="checkbox"/> <b>Yes</b>	<input checked="" type="checkbox"/> <b>No<sup>1</sup></b>
<b>F</b>	Were results for all analyte-list compounds/elements for the specified method(s) reported?	<input type="checkbox"/> <b>Yes</b>	<input checked="" type="checkbox"/> <b>No<sup>1</sup></b>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case 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:** Project Manager

**Printed Name:** Peter Henriksen

**Date:** 3-14-08



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# CASE NARRATIVE

## Alpha Analytical


**ETR: 0803046****Project: L0803223-ERM BOSTON**

All analyses were performed according to Alpha Analytical quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. All soil/sediment results are reported on a dry weight basis unless otherwise noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Alpha Analytical certifies that the test results within meet all of the requirements of NELAC, for all NELAC accredited parameters.

### *Volatile Organics by 8260*

1. The initial calibration had values for compounds outside of the 15% RSD QC advisory limit. Refer to the Form VI Initial Calibration Summary report for specific outliers. This initial calibration meets the acceptability criteria.
2. Per client request, only a subset of the MCP analyte list for SW-846 Method 8260B Volatile Organic Compounds by GC/MS were reported.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Analytical makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Analytical. To the best of my knowledge, the information contained in this report is accurate and complete. For any questions regarding this report, please contact the signatory below at 508-822-9300.

Approved by:  \_\_\_\_\_ Title: Project Manager Date: 3/14/08  
Peter Henriksen

*i*

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# **VOLATILE ORGANICS**

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Client ID: **DEP-19M-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **0803046-01**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	14.7
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.65
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	101	70-130
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	98	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Client ID: **MW-264M-20080306-01**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **0803046-02**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/06/08	03/11/08	03/13/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.74
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	48.9
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	43.9
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	8.05
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	98	70-130
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	94	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Client ID: **Blank**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **VW031208B02**  
 Associated Blank: **N/A**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/12/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.00 U
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	102	70-130
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I

## Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Client ID: **Blank**  
 Case: **N/A**      SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **VW031308B08**  
 Associated Blank: **N/A**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/13/08	5	5	1	ALM

Parameter	Result
Dichlorodifluoromethane	2.00 U
Chloromethane	2.00 U
Vinyl chloride	2.00 U
Chloroethane	2.00 U
1,1-Dichloroethene	2.00 U
Methylene chloride	5.00 U
trans-1,2-Dichloroethene	2.00 U
1,1-Dichloroethane	2.00 U
cis-1,2-Dichloroethene	2.00 U
1,1,1-Trichloroethane	2.00 U
Carbon tetrachloride	2.00 U
1,2-Dichloroethane	2.00 U
Trichloroethene	2.00 U
1,2-Dichloropropane	2.00 U
Bromodichloromethane	2.00 U
cis-1,3-Dichloropropene	2.00 U
trans-1,3-Dichloropropene	2.00 U
1,1,2-Trichloroethane	2.00 U
Tetrachloroethene	2.00 U
1,3-Dichloropropane	2.00 U
Dibromochloromethane	2.00 U
1,2-Dibromoethane	2.00 U
Chlorobenzene	2.00 U
1,1,1,2-Tetrachloroethane	2.00 U
Bromoform	2.00 U
1,1,2,2-Tetrachloroethane	2.00 U
2-Chlorotoluene	2.00 U
4-Chlorotoluene	2.00 U
1,3-Dichlorobenzene	2.00 U
1,4-Dichlorobenzene	2.00 U
1,2-Dichlorobenzene	2.00 U
1,2,4-Trichlorobenzene	2.00 U
Hexachlorobutadiene	2.00 U

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	97	70-130
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

## Form III Spike Recovery Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Client ID: **Laboratory Control Sample**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **See Below**  
 Associated Blank: **VW031208B02**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/12/08	5	5	1	ALM

Lab ID: VW031208B02 VW031208LCS01 VW031208LCS01

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD - % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Dichlorodifluoromethane	2.00	U	21.6	108	21.0	105	3	25	70-130
Chloromethane	2.00	U	21.1	106	19.9	99	6	25	70-130
Vinyl chloride	2.00	U	22.2	111	22.1	111	0	25	70-130
Chloroethane	2.00	U	24.6	123	23.0	115	7	25	70-130
1,1-Dichloroethene	2.00	U	19.3	96	19.0	95	1	25	70-130
Methylene chloride	5.00	U	18.9	94	18.8	94	0	25	70-130
trans-1,2-Dichloroethene	2.00	U	19.5	97	18.9	94	3	25	70-130
1,1-Dichloroethane	2.00	U	19.5	97	18.9	94	3	25	70-130
cis-1,2-Dichloroethene	2.00	U	19.7	98	19.0	95	4	25	70-130
1,1,1-Trichloroethane	2.00	U	19.8	99	19.1	95	4	25	70-130
Carbon tetrachloride	2.00	U	19.4	97	18.7	94	3	25	70-130
1,2-Dichloroethane	2.00	U	19.6	98	19.5	98	1	25	70-130
Trichloroethene	2.00	U	20.1	100	19.5	98	3	25	70-130
1,2-Dichloropropane	2.00	U	19.4	97	19.5	97	0	25	70-130
Bromodichloromethane	2.00	U	19.7	99	19.2	96	3	25	70-130
cis-1,3-Dichloropropene	2.00	U	19.4	97	19.3	96	1	25	70-130
trans-1,3-Dichloropropene	2.00	U	19.4	97	19.1	96	2	25	70-130
1,1,2-Trichloroethane	2.00	U	19.6	98	19.4	97	1	25	70-130
Tetrachloroethene	2.00	U	20.3	102	19.4	97	5	25	70-130
1,3-Dichloropropane	2.00	U	19.7	99	19.4	97	1	25	70-130
Dibromochloromethane	2.00	U	19.6	98	20.0	100	2	25	70-130
1,2-Dibromoethane	2.00	U	19.6	98	19.5	98	1	25	70-130
Chlorobenzene	2.00	U	19.7	98	19.2	96	3	25	70-130
1,1,1,2-Tetrachloroethane	2.00	U	19.7	98	19.7	98	0	25	70-130
Bromoform	2.00	U	19.7	98	18.7	93	5	25	70-130
1,1,2,2-Tetrachloroethane	2.00	U	19.7	99	19.3	96	2	25	70-130
2-Chlorotoluene	2.00	U	19.8	99	19.0	95	4	25	70-130
4-Chlorotoluene	2.00	U	19.0	95	18.3	91	4	25	70-130
1,3-Dichlorobenzene	2.00	U	20.0	100	19.2	96	4	25	70-130
1,4-Dichlorobenzene	2.00	U	19.6	98	19.5	97	1	25	70-130
1,2-Dichlorobenzene	2.00	U	20.3	101	19.4	97	4	25	70-130
1,2,4-Trichlorobenzene	2.00	U	20.3	101	19.4	97	5	25	70-130
Hexachlorobutadiene	2.00	U	21.9	110	19.5	98	11	25	70-130

Surrogate	% Recovery		Acceptance Range (%)
Dibromofluoromethane	98	98	70-130
1,2-Dichloroethane-d4	97	97	70-130
Toluene-d8	100	102	70-130
4-Bromofluorobenzene	100	99	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

03/14/08 11:24

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## Form III Spike Recovery Summary Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Client ID: **Laboratory Control Sample**  
 Case: **N/A** SDG: **N/A**  
 Matrix: **Water**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **See Below**  
 Associated Blank: **VW031308B08**  
 Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/13/08	5	5	1	ALM

Lab ID: VW031308B08 VW031308LCS04 VW031308LCSD04

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD - % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Dichlorodifluoromethane	2.00	U	17.8	89	17.8	89	0	25	70-130
Chloromethane	2.00	U	16.4	82	16.9	85	3	25	70-130
Vinyl chloride	2.00	U	18.3	92	18.5	93	1	25	70-130
Chloroethane	2.00	U	17.4	87	18.0	90	4	25	70-130
1,1-Dichloroethene	2.00	U	20.5	103	20.6	103	0	25	70-130
Methylene chloride	5.00	U	19.9	99	20.3	102	2	25	70-130
trans-1,2-Dichloroethene	2.00	U	18.8	94	20.0	100	6	25	70-130
1,1-Dichloroethane	2.00	U	19.3	96	19.8	99	3	25	70-130
cis-1,2-Dichloroethene	2.00	U	18.4	92	19.4	97	5	25	70-130
1,1,1-Trichloroethane	2.00	U	19.0	95	19.8	99	4	25	70-130
Carbon tetrachloride	2.00	U	19.1	95	19.7	99	3	25	70-130
1,2-Dichloroethane	2.00	U	18.6	93	18.7	94	1	25	70-130
Trichloroethene	2.00	U	19.9	99	20.4	102	3	25	70-130
1,2-Dichloropropane	2.00	U	20.6	103	20.3	102	1	25	70-130
Bromodichloromethane	2.00	U	19.2	96	19.9	100	4	25	70-130
cis-1,3-Dichloropropene	2.00	U	19.7	99	19.7	99	0	25	70-130
trans-1,3-Dichloropropene	2.00	U	19.3	97	19.5	98	1	25	70-130
1,1,2-Trichloroethane	2.00	U	19.8	99	19.8	99	0	25	70-130
Tetrachloroethene	2.00	U	21.3	106	22.2	111	4	25	70-130
1,3-Dichloropropane	2.00	U	19.5	98	19.6	98	0	25	70-130
Dibromochloromethane	2.00	U	19.9	99	20.1	100	1	25	70-130
1,2-Dibromoethane	2.00	U	19.9	99	20.6	103	3	25	70-130
Chlorobenzene	2.00	U	19.6	98	20.0	100	2	25	70-130
1,1,1,2-Tetrachloroethane	2.00	U	20.1	100	20.4	102	2	25	70-130
Bromoform	2.00	U	19.8	99	19.9	99	0	25	70-130
1,1,2,2-Tetrachloroethane	2.00	U	19.5	97	18.8	94	4	25	70-130
2-Chlorotoluene	2.00	U	19.0	95	19.9	100	5	25	70-130
4-Chlorotoluene	2.00	U	19.1	95	19.8	99	4	25	70-130
1,3-Dichlorobenzene	2.00	U	20.0	100	20.7	103	3	25	70-130
1,4-Dichlorobenzene	2.00	U	19.7	98	20.2	101	3	25	70-130
1,2-Dichlorobenzene	2.00	U	19.8	99	20.4	102	3	25	70-130
1,2,4-Trichlorobenzene	2.00	U	20.0	100	20.1	101	1	25	70-130
Hexachlorobutadiene	2.00	U	20.6	103	20.3	102	2	25	70-130

Surrogate	% Recovery		Acceptance Range (%)
Dibromofluoromethane	96	96	70-130
1,2-Dichloroethane-d4	90	90	70-130
Toluene-d8	100	100	70-130
4-Bromofluorobenzene	98	100	70-130

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

03/14/08 11:25  
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# *Supporting Quality Control Results*

**Form II**  
**Surrogate Recovery**  
**Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803046**

Matrix: **Water**

Case: **N/A**      SDG: **N/A**

Client ID	Lab ID	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
LCS	VW031208LCS01	98	97	100	100
LCSD	VW031208LCSD01	98	97	102	99
Blank	VW031208B02	102	101	101	96
DEP-19M-20080306-01	0803046-01	101	106	90	98
LCS	VW031308LCS04	96	90	100	98
LCSD	VW031308LCSD04	96	90	100	100
Blank	VW031308B08	97	95	98	96
MW-264M-20080306-01	0803046-02	98	98	88	94

N/A - Not Applicable

Surrogate	QC Limit
Dibromofluoromethane	70-130
1,2-Dichloroethane-d4	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

**Form IV  
Method Blank Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**

Project: **L0803223 - ERM BOSTON**

Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**

ETR: **0803046**

Lab ID: **VW031208B02**

Date Analyzed: **03/12/08 16:51**

<u>Client ID</u>	<u>Lab ID</u>	<u>Date/Time Analyzed</u>
LCS	VW031208LCS01	03/12/08 15:19
LCSD	VW031208LCSD01	03/12/08 15:50
DEP-19M-20080306-01	0803046-01	03/12/08 17:53

N/A - Not Applicable

**Form IV  
Method Blank Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**

Project: **L0803223 - ERM BOSTON**

Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**

ETR: **0803046**

Lab ID: **VW031308B08**

Date Analyzed: **03/13/08 18:52**

Client ID	Lab ID	Date/Time Analyzed
LCS	VW031308LCS04	03/13/08 17:20
LCSD	VW031308LCSD04	03/13/08 17:50
MW-264M-20080306-01	0803046-02	03/13/08 19:22

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**

Client: **Alpha Analytical - Westborough**Project: **L0803223 - ERM BOSTON**Case: **N/A** SDG: **N/A**Lab Code: **MA00030**ETR: **0803046**Lab ID: **T1031201**Date Analyzed: **03/12/08 08:39**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	21.4	45101	Pass
75	95	30	60	47.1	99181	Pass
95	95	100	100	100	210496	Pass
96	95	5	9	6.6	13976	Pass
173	174	0	2	0	0	Pass
174	95	50	100	69.2	145600	Pass
175	174	5	9	7.7	11160	Pass
176	174	95	101	97.7	142208	Pass
177	176	5	9	6.6	9418	Pass

Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	I1031201	03/12/08 09:10
Initial Calibration	I1031202	03/12/08 09:41
Initial Calibration	I1031204	03/12/08 10:42
Initial Calibration	I1031205	03/12/08 11:13
Initial Calibration	I1031206	03/12/08 11:44
Initial Calibration	I1031207	03/12/08 14:17

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**

Client: **Alpha Analytical - Westborough**Project: **L0803223 - ERM BOSTON**Case: **N/A**      SDG: **N/A**Lab Code: **MA00030**ETR: **0803046**Lab ID: **T1031202**Date Analyzed: **03/12/08 13:47**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	21.5	44045	Pass
75	95	30	60	46.4	94901	Pass
95	95	100	100	100	204693	Pass
96	95	5	9	6.9	14054	Pass
173	174	0	2	0	0	Pass
174	95	50	100	71.6	146475	Pass
175	174	5	9	7.5	11025	Pass
176	174	95	101	95.6	140075	Pass
177	176	5	9	6.4	8962	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C1031201	03/12/08 14:48
LCS	VW031208LCS01	03/12/08 15:19
LCSD	VW031208LCSD01	03/12/08 15:50
Blank	VW031208B02	03/12/08 16:51
DEP-19M-20080306-01	0803046-01	03/12/08 17:53

N/A - Not Applicable

**Form V**  
**Tune Summary**  
**Volatile Organics by 8260**

Client: **Alpha Analytical - Westborough**Project: **L0803223 - ERM BOSTON**Case: **N/A**      SDG: **N/A**Lab Code: **MA00030**ETR: **0803046**Lab ID: **T1031301**Date Analyzed: **03/13/08 08:44**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	24.5	43397	Pass
75	95	30	60	51.1	90472	Pass
95	95	100	100	100	177152	Pass
96	95	5	9	6.1	10803	Pass
173	174	0	2	0	0	Pass
174	95	50	100	63.1	111861	Pass
175	174	5	9	7.8	8708	Pass
176	174	95	101	97.1	108616	Pass
177	176	5	9	6.4	6997	Pass

Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	11031301	03/13/08 11:42
Initial Calibration	11031302	03/13/08 12:12
Initial Calibration	11031303	03/13/08 12:43
Initial Calibration	11031304	03/13/08 13:14
Initial Calibration	11031305	03/13/08 13:45
Initial Calibration	11031306	03/13/08 14:15

N/A - Not Applicable

**Form V  
Tune Summary  
Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**  
 Case: **N/A**      SDG: **N/A**

Lab Code: **MA00030**  
 ETR: **0803046**  
 Lab ID: **T1031302**  
 Date Analyzed: **03/13/08 16:18**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	20.6	42256	Pass
75	95	30	60	47	96448	Pass
95	95	100	100	100	205376	Pass
96	95	5	9	6.5	13449	Pass
173	174	0	2	0	0	Pass
174	95	50	100	68.7	141099	Pass
175	174	5	9	7.9	11150	Pass
176	174	95	101	96.6	136320	Pass
177	176	5	9	6.8	9229	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C1031303	03/13/08 16:49
LCS	VW031308LCS04	03/13/08 17:20
LCSD	VW031308LCSD04	03/13/08 17:50
Blank	VW031308B08	03/13/08 18:52
MW-264M-20080306-01	0803046-02	03/13/08 19:22

N/A - Not Applicable



# Form VI

## Initial Calibration Summary

### Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803046**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031201	03/12/08 09:10
I1031202	03/12/08 09:41
I1031204	03/12/08 10:42
I1031205	03/12/08 11:13
I1031206	03/12/08 11:44
I1031207	03/12/08 14:17

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
Dichlorodifluoromethane	0.88	1.12	1.34	1.53	1.37	1.51	1.29	19.2 <sup>a</sup>
Chloromethane	0.99	1.26	1.35	1.54	1.39	1.48	1.34	14.7
Vinyl chloride	0.65	0.84	0.92	1.05	0.99	1.02	0.91	16.3
Chloroethane	0.32	0.43	0.42	0.48	0.23	0.47	0.39	24.5 <sup>a</sup>
1,1-Dichloroethene	1.42	1.48	1.52	1.45	1.34	1.35	1.43	5.1
Methylene chloride		1.17	1.09	1.08	1.04	1.04	1.08	5.1
trans-1,2-Dichloroethene	1.32	1.55	1.56	1.50	1.40	1.39	1.45	6.6
1,1-Dichloroethane	1.80	2.02	1.92	1.87	1.75	1.78	1.86	5.4
cis-1,2-Dichloroethene	1.48	1.61	1.65	1.54	1.51	1.48	1.55	4.6
1,1,1-Trichloroethane	1.30	1.52	1.51	1.48	1.41	1.40	1.44	5.8
Carbon tetrachloride	1.27	1.41	1.39	1.37	1.29	1.30	1.34	4.3
1,2-Dichloroethane	1.41	1.63	1.56	1.53	1.40	1.43	1.50	6.3
Trichloroethene	0.44	0.48	0.47	0.46	0.47	0.45	0.46	3.2
1,2-Dichloropropane	0.48	0.53	0.50	0.49	0.49	0.47	0.49	3.8
Bromodichloromethane	0.66	0.71	0.69	0.68	0.69	0.65	0.68	3.0
cis-1,3-Dichloropropene	0.74	0.82	0.82	0.81	0.80	0.77	0.79	4.0
trans-1,3-Dichloropropene	0.60	0.74	0.75	0.74	0.74	0.68	0.71	8.3
1,1,2-Trichloroethane	0.35	0.43	0.40	0.40	0.40	0.38	0.39	6.8
Tetrachloroethene	0.35	0.38	0.38	0.39	0.41	0.36	0.38	5.3
1,3-Dichloropropane	0.69	0.81	0.77	0.77	0.77	0.73	0.75	5.4
Dibromochloromethane	0.51	0.59	0.61	0.62	0.63	0.57	0.59	7.6
1,2-Dibromoethane	0.46	0.53	0.53	0.54	0.55	0.49	0.52	6.9
Chlorobenzene	0.85	0.90	0.86	0.86	0.88	0.82	0.86	3.0
1,1,1,2-Tetrachloroethane	0.30	0.34	0.35	0.35	0.34	0.32	0.33	5.9
Bromoform	0.18	0.23	0.25	0.25	0.26	0.21	0.23	12.6
1,1,1,2,2-Tetrachloroethane	0.40	0.45	0.48	0.48	0.47	0.44	0.45	6.9
2-Chlorotoluene	0.80	0.88	0.90	0.89	0.91	0.83	0.87	5.1
4-Chlorotoluene	0.93	1.03	1.07	1.05	1.07	0.95	1.02	5.9
1,3-Dichlorobenzene	0.53	0.57	0.62	0.63	0.64	0.57	0.59	7.4
1,4-Dichlorobenzene	0.54	0.62	0.66	0.66	0.69	0.58	0.63	8.9
1,2-Dichlorobenzene	0.50	0.56	0.62	0.63	0.65	0.56	0.59	9.5
1,2,4-Trichlorobenzene	0.23	0.25	0.30	0.31	0.33	0.27	0.28	13.6

N/A - Not Applicable

<sup>a</sup> - Value outside of QC advisory limits.

**Form VI**  
**Initial Calibration Summary**  
**Volatile Organics by 8260**



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803046**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031201	03/12/08 09:10
I1031202	03/12/08 09:41
I1031204	03/12/08 10:42
I1031205	03/12/08 11:13
I1031206	03/12/08 11:44
I1031207	03/12/08 14:17

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
Hexachlorobutadiene	0.081	0.079	0.092	0.094	0.098	0.085	0.088	8.5
Dibromofluoromethane	0.89	0.90	0.90	0.89	0.82	0.88	0.88	3.3
1,2-Dichloroethane-d4	0.81	0.83	0.83	0.82	0.74	0.81	0.81	4.0
Toluene-d8	1.23	1.24	1.25	1.25	1.26	1.24	1.25	0.9
4-Bromofluorobenzene	0.55	0.56	0.59	0.58	0.57	0.57	0.57	2.4
Average RSD								7.3

N/A - Not Applicable

# Form VI

## Initial Calibration Summary

### Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**  
 ETR: **0803046**

Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031301	03/13/08 11:42
I1031302	03/13/08 12:12
I1031303	03/13/08 12:43
I1031304	03/13/08 13:14
I1031305	03/13/08 13:45
I1031306	03/13/08 14:15

Parameter	Response Factors						Mean	% RSD
	2	5	20	50	100	200		
Dichlorodifluoromethane	1.45	1.45	1.52	1.65	1.55	1.35	1.50	6.9
Chloromethane	1.78	1.56	1.49	1.64	1.56	1.42	1.58	7.9
Vinyl chloride	1.05	1.01	1.09	1.18	1.10	0.97	1.07	6.8
Chloroethane	0.59	0.51	0.49	0.54	0.51	0.41	0.51	11.8
1,1-Dichloroethene	1.51	1.35	1.36	1.44	1.37	1.22	1.37	7.1
Methylene chloride		1.05	1.01	1.08	1.05	0.99	1.04	3.4
trans-1,2-Dichloroethene	1.67	1.45	1.45	1.56	1.47	1.31	1.49	8.0
1,1-Dichloroethane	2.07	1.87	1.79	1.98	1.83	1.67	1.87	7.5
cis-1,2-Dichloroethene	1.83	1.57	1.59	1.70	1.64	1.45	1.63	8.0
1,1,1-Trichloroethane	1.70	1.48	1.48	1.56	1.50	1.36	1.51	7.5
Carbon tetrachloride	1.53	1.35	1.34	1.43	1.35	1.23	1.37	7.3
1,2-Dichloroethane	1.64	1.65	1.58	1.71	1.63	1.38	1.60	7.0
Trichloroethene	0.58	0.49	0.44	0.49	0.48	0.46	0.49	10.3
1,2-Dichloropropane	0.53	0.50	0.49	0.53	0.51	0.49	0.51	3.9
Bromodichloromethane	0.73	0.68	0.67	0.75	0.73	0.69	0.71	5.0
cis-1,3-Dichloropropene	0.81	0.77	0.78	0.87	0.85	0.81	0.81	4.9
trans-1,3-Dichloropropene	0.69	0.68	0.71	0.79	0.78	0.73	0.73	6.3
1,1,2-Trichloroethane	0.40	0.40	0.39	0.42	0.42	0.40	0.40	3.1
Tetrachloroethene	0.40	0.35	0.34	0.39	0.39	0.40	0.38	7.2
1,3-Dichloropropane	0.76	0.77	0.75	0.81	0.81	0.76	0.77	3.6
Dibromochloromethane	0.61	0.54	0.57	0.64	0.64	0.63	0.60	6.9
1,2-Dibromoethane	0.50	0.49	0.49	0.55	0.56	0.53	0.52	5.5
Chlorobenzene	0.95	0.83	0.80	0.88	0.88	0.86	0.87	5.9
1,1,1,2-Tetrachloroethane	0.35	0.32	0.32	0.36	0.35	0.33	0.34	5.2
Bromoform	0.20	0.19	0.22	0.24	0.25	0.24	0.22	10.9
1,1,2,2-Tetrachloroethane	0.42	0.42	0.45	0.48	0.47	0.44	0.45	5.4
2-Chlorotoluene	0.98	0.84	0.84	0.96	0.92	0.90	0.91	6.4
4-Chlorotoluene	1.03	0.92	0.99	1.12	1.09	1.07	1.04	7.0
1,3-Dichlorobenzene	0.57	0.53	0.56	0.65	0.64	0.63	0.60	8.5
1,4-Dichlorobenzene	0.63	0.57	0.61	0.69	0.68	0.67	0.64	7.2
1,2-Dichlorobenzene	0.56	0.53	0.57	0.64	0.64	0.62	0.59	8.0
1,2,4-Trichlorobenzene	0.26	0.24	0.27	0.32	0.32	0.32	0.29	12.4

N/A - Not Applicable

**Form VI**  
**Initial Calibration Summary**  
**Volatile Organics by 8260**

Client: **Alpha Analytical - Westborough**Project: **L0803223 - ERM BOSTON**Lab Code: **MA00030**ETR: **0803046**Case: **N/A**      SDG: **N/A**

Lab ID	Date/Time Analyzed
I1031301	03/13/08 11:42
I1031302	03/13/08 12:12
I1031303	03/13/08 12:43
I1031304	03/13/08 13:14
I1031305	03/13/08 13:45
I1031306	03/13/08 14:15

Parameter	Response Factors						Mean	% RSD
	2	5	20	50	100	200		
Hexachlorobutadiene	0.11	0.083	0.083	0.097	0.096	0.095	0.094	10.7
Dibromofluoromethane	0.90	0.91	0.92	0.91	0.89	0.84	0.90	3.2
1,2-Dichloroethane-d4	0.85	0.91	0.90	0.88	0.84	0.74	0.85	7.1
Toluene-d8	1.28	1.27	1.26	1.30	1.30	1.31	1.29	1.5
4-Bromofluorobenzene	0.57	0.58	0.59	0.61	0.60	0.58	0.59	2.5
Average RSD								6.7

N/A - Not Applicable

## Form VII Calibration Verification Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803046**

Lab ID: **C1031201**

Case: **N/A**      SDG: **N/A**

Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
Dichlorodifluoromethane	1.29	1.22	5.3	30
Chloromethane	1.34	1.25	6.4	30
Vinyl chloride	0.91	0.86	6.0	20
Chloroethane	0.39	0.40	0.6	30
1,1-Dichloroethene	1.43	1.42	0.2	20
Methylene chloride	1.08	1.06	2.3	30
trans-1,2-Dichloroethene	1.45	1.47	0.8	30
1,1-Dichloroethane	1.86	1.81	2.6	30
cis-1,2-Dichloroethene	1.55	1.53	1.1	30
1,1,1-Trichloroethane	1.44	1.44	0.1	30
Carbon tetrachloride	1.34	1.32	1.6	30
1,2-Dichloroethane	1.50	1.49	0.8	30
Trichloroethene	0.46	0.47	2.0	30
1,2-Dichloropropane	0.49	0.49	0.6	20
Bromodichloromethane	0.68	0.69	1.1	30
cis-1,3-Dichloropropene	0.79	0.81	1.4	30
trans-1,3-Dichloropropene	0.71	0.73	2.7	30
1,1,2-Trichloroethane	0.39	0.40	3.0	30
Tetrachloroethene	0.38	0.38	1.5	30
1,3-Dichloropropane	0.75	0.77	2.6	30
Dibromochloromethane	0.59	0.62	4.6	30
1,2-Dibromoethane	0.52	0.54	3.8	30
Chlorobenzene	0.86	0.86	0.6	30
1,1,1,2-Tetrachloroethane	0.33	0.34	2.3	30
Bromoform	0.23	0.25	6.4	30
1,1,2,2-Tetrachloroethane	0.45	0.47	3.8	30
2-Chlorotoluene	0.87	0.88	1.7	30
4-Chlorotoluene	1.02	1.03	1.5	30
1,3-Dichlorobenzene	0.59	0.61	3.8	30
1,4-Dichlorobenzene	0.63	0.64	2.2	30
1,2-Dichlorobenzene	0.59	0.61	4.8	30
1,2,4-Trichlorobenzene	0.28	0.30	4.8	30
Hexachlorobutadiene	0.088	0.090	2.0	30
Dibromofluoromethane	0.88	0.87	1.5	30
1,2-Dichloroethane-d4	0.81	0.79	1.9	30
Toluene-d8	1.25	1.28	2.4	30
4-Bromofluorobenzene	0.57	0.58	1.0	30
Average % D			2.5	

N/A - Not Applicable

## Form VII Calibration Verification Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803046**

Lab ID: **C1031303**

Case: **N/A**      SDG: **N/A**

Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
Dichlorodifluoromethane	1.50	1.45	3.0	30
Chloromethane	1.58	1.40	11.2	30
Vinyl chloride	1.07	0.98	8.2	20
Chloroethane	0.51	0.46	9.1	30
1,1-Dichloroethene	1.37	1.27	7.5	20
Methylene chloride	1.04	1.01	2.6	30
trans-1,2-Dichloroethene	1.49	1.35	9.0	30
1,1-Dichloroethane	1.87	1.72	8.3	30
cis-1,2-Dichloroethene	1.63	1.51	7.1	30
1,1,1-Trichloroethane	1.51	1.40	7.6	30
Carbon tetrachloride	1.37	1.26	8.0	30
1,2-Dichloroethane	1.60	1.50	6.0	30
Trichloroethene	0.49	0.47	4.8	30
1,2-Dichloropropane	0.51	0.49	3.1	20
Bromodichloromethane	0.71	0.70	2.0	30
cis-1,3-Dichloropropene	0.81	0.80	1.4	30
trans-1,3-Dichloropropene	0.73	0.73	0.5	30
1,1,2-Trichloroethane	0.40	0.40	1.0	30
Tetrachloroethene	0.38	0.38	0.3	30
1,3-Dichloropropane	0.77	0.76	2.5	30
Dibromochloromethane	0.60	0.62	2.2	30
1,2-Dibromoethane	0.52	0.53	2.4	30
Chlorobenzene	0.87	0.84	3.1	30
1,1,1,2-Tetrachloroethane	0.34	0.33	1.5	30
Bromoform	0.22	0.23	3.9	30
1,1,2,2-Tetrachloroethane	0.45	0.44	2.1	30
2-Chlorotoluene	0.91	0.87	4.0	30
4-Chlorotoluene	1.04	1.03	1.0	30
1,3-Dichlorobenzene	0.60	0.61	1.8	30
1,4-Dichlorobenzene	0.64	0.64	0.3	30
1,2-Dichlorobenzene	0.59	0.60	0.7	30
1,2,4-Trichlorobenzene	0.29	0.30	2.1	30
Hexachlorobutadiene	0.094	0.089	5.7	30
Dibromofluoromethane	0.90	0.88	2.1	30
1,2-Dichloroethane-d4	0.85	0.80	6.6	30
Toluene-d8	1.29	1.31	1.3	30
4-Bromofluorobenzene	0.59	0.59	0.1	30
Average % D			3.9	

N/A - Not Applicable

**Form VIII  
Internal Standard Summary  
Volatile Organics by 8260**

Client: **Alpha Analytical - Westborough**Project: **L0803223 - ERM BOSTON**Lab Code: **MA00030**ETR: **0803046**Lab ID: **C1031201**Case: **N/A**      SDG: **N/A**

	Pentafluorobenzene		Fluorobenzene		Chlorobenzene-D5		
	Area	RT	Area	RT	Area	RT	
Standard:	309617	5.67	707642	6.40	1005235	10.67	
Upper Limit:	619234	6.17	1415284	6.90	2010470	11.17	
Lower Limit:	154808	5.17	353821	5.90	502618	10.17	
Client ID	Lab ID						
LCS	VW031208LCS01	315245	5.67	722079	6.40	1000948	10.66
LCSD	VW031208LCSD01	311768	5.67	709298	6.40	1003320	10.67
Blank	VW031208B02	299831	5.67	689387	6.40	954353	10.66
DEP-19M-20080306-01	0803046-01	285427	5.66	650771	6.40	914750	10.66

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.

Area Lower Limit = -50% of internal standard.

RT = Retention Time.

RT Upper Limit = +0.5 minutes of internal standard RT.

RT Lower Limit = -0.5 minutes of internal standard RT.

# Form VIII

## Internal Standard Summary

### Volatile Organics by 8260



Client: **Alpha Analytical - Westborough**  
 Project: **L0803223 - ERM BOSTON**

Lab Code: **MA00030**

ETR: **0803046**

Lab ID: **C1031303**

Case: **N/A**      SDG: **N/A**

	Pentafluorobenzene		Fluorobenzene		Chlorobenzene-D5		
	Area	RT	Area	RT	Area	RT	
Standard:	300650	5.63	681462	6.37	998678	10.63	
Upper Limit:	601300	6.13	1362924	6.87	1997356	11.13	
Lower Limit:	150325	5.13	340731	5.87	499339	10.13	
Client ID	Lab ID						
LCS	VW031308LCS04	306283	5.64	683768	6.37	987486	10.63
LCSD	VW031308LCSD04	304003	5.64	675769	6.37	975180	10.63
Blank	VW031308B08	290770	5.64	666016	6.37	933650	10.63
MW-264M-20080306-01	0803046-02	283645	5.64	636285	6.37	913522	10.63

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.

Area Lower Limit = -50% of internal standard.

RT = Retention Time.

RT Upper Limit = +0.5 minutes of internal standard RT.

RT Lower Limit = -0.5 minutes of internal standard RT.



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# Chain of Custody Records







### Sample Delivery Group Form

Laboratory Job No: 2080 3223  
 Receipt Date/Time: 3/7/08 1715

Client: ERM - Boston  
 SDG Reviewer: wm

**Samples Delivered By:**

Alpha Courier  Client  UPS  FedEx  Other \_\_\_\_\_  
 Bill of Laden:  Yes  Unavailable Tracking #: \_\_\_\_\_

**Chain of Custody:**  Present  Absent: \_\_\_\_\_

**Custody Seals:**  Absent  Present/Intact  Present/Broken

**Cooler/Sample Temperature:**

Is Ice/Blue Ice present?  Yes  No  N/A \_\_\_\_\_

Temp taken from: Temp Blank: (a) 2.2<sup>o</sup> (b) \_\_\_\_\_ (c) \_\_\_\_\_ (d) \_\_\_\_\_ (e) \_\_\_\_\_

IR Gun: (a) \_\_\_\_\_ (b) \_\_\_\_\_ (c) \_\_\_\_\_ (d) \_\_\_\_\_ (e) \_\_\_\_\_

Was Temp:  2-6 Celsius

<2 Celsius ... were samples frozen upon receipt?  Yes  No

>6 Celsius ... were samples delivered direct from site?  Yes  No

**Containers Received:**

Intact  
 Broken/Leaking Sample IDs: \_\_\_\_\_  
 Sample IDs: \_\_\_\_\_

**All Containers Accounted For?**  Yes

No: \_\_\_\_\_

**Extra Samples Received?**  No

Yes: \_\_\_\_\_

**Do Sample Labels and COC agree?**  Yes

No: \_\_\_\_\_

**Are Samples in Appropriate Containers?**  Yes

No: \_\_\_\_\_

**Are samples rec'd within holding time?**  Yes

No: \_\_\_\_\_

\* Please note: the analysis of pH will always be performed beyond the regulatory-required holding time of 15 min. from the time of collection.

**pH of samples upon receipt:**  N/A  <2  >12 and/or  7

Are samples properly preserved?  Yes  No If No then.....

Initial pH= \_\_\_\_\_ preserved In-House with  HCL  H<sub>2</sub>SO<sub>4</sub>  HNO<sub>3</sub> <<Final pH = \_\_\_\_\_>>

Other Issues: \_\_\_\_\_

Chlorine Check:  N/A  Present  Absent

**VOANPH vials:**  Yes  No

Aqueous: vials contain head space?  No  Yes: \_\_\_\_\_

Soils: MeOH covering soil?  Yes  No: \_\_\_\_\_

Reagent H<sub>2</sub>O Preserved vials Frozen @ date/time: \_\_\_\_\_

Frozen by Client?  No  Yes @ date/time: \_\_\_\_\_

**Was Client notified of any discrepancies listed above?**

Yes  No  N/A

If Yes: Call Tracker # \_\_\_\_\_

## Sample Receipt Checklist

Page 1 of 1

Client: <u>Alpha Analytical</u>	Receipt Date: <u>3/11/08</u>
Project: <u>A0803223-ERM</u>	Log-in Date: <u>3/12/08</u>
ETR #: <u>0803046</u>	Inspection by: <u>Jm</u> Login by: <u>w</u>

## ALL SECTIONS BELOW MUST BE COMPLETED

## Comments / Notes

Were samples shipped? Yes, FedEx / UPS / Other: _____ <u>No</u> , <u>Alpha Analytical Courier pick-up</u> / Hand delivered	Sample storage refrigerator #: <u>VOA</u>
Is bill of lading retained? Yes, Tracking #: _____ No, Unavailable / <u>NA</u>	Sample storage freezer #: _____
Number of coolers received for this project delivery: <u>1</u>	
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <b>Note:</b> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C. <b>Cooler 1:</b> Temperature(s) taken from: <u>5°</u> IR Gun, <u>6°</u> Temp. Blank, / NA	Cooler 2: _____ Cooler 3: _____ Cooler 4: _____ Cooler 5: _____ Cooler 6: _____ Cooler 7: _____ More: _____
Were samples received on ice? <u>Yes</u> / No	
Chain-of-Custody present? <u>Yes</u> / No Complete? <u>Yes</u> / No	
Custody seals present on Cooler? Yes / <u>No</u> on Bottles? Yes / <u>No</u> Intact? Yes / No / <u>NA</u> <b>Note:</b> Affix custody seals to back of this page.	
Were sample containers intact? <u>Yes</u> / No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / <u>No</u> / NA If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <u>NA</u> If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <u>Yes</u> / No If No, list samples: →	
If chemical preservation is appropriate - Were samples field preserved? <u>Yes</u> / No / NA <input checked="" type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO <sub>3</sub> <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown	Chemical preservation OK for ALL samples? Yes / No / <u>NA</u> If No, list samples below:
Preservation (pH) verified at lab for EVERY bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO <u>NA</u> If No, why?:	
Were samples received within hold time? <u>Yes</u> / No If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes / <u>No</u> If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: _____ Date: _____	Please use back for any additional notes!

## Certificate/Approval Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

**Connecticut Department of Public Health** Certificate/Lab ID : PH-0141 - *Wastewater* (General Chemistry: EPA 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2; Metals: 200.8, 245.1; Organics: 608-PCB, ETPH)  
*Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9060; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

**Florida Department of Health** Certificate/Lab ID : E87814 - Primary NELAP Accreditation Authority for Air & Emissions. Secondary NELAP Accreditation for Wastewater and Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 335.2, SM2320B, SM2340B, SM2540G, SM4500NH<sub>3</sub>; Metals: 245.1; Organics: 608-PCB). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9065, Reactivity 7.3; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

**Louisiana Department of Environmental Quality** Certificate/Lab ID : 03090 - Primary NELAP Accrediting Authority for Wastewater, Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1, 6020; Organics: 608-PCB, 8015-DRO, 8081, 8082, 8260, 8270). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060, Reactivity 7.3; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO, 8081, 8082, 8260, 8270).

**Maine Department of Human Services** Certificate/Lab ID : MA0030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2; Metals: EPA 245.1; Organics: 608-PCB).

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2; Metals: EPA 245.1; Organics: EPA 608-PCB).

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, SM2540G; Metals: 200.8, 245.4; Organics: 608-PCB).

**New Jersey Department of Environmental Protection** Certificate/Lab ID : MA015 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1 6020; Organics: 608-PCB, 8081, 8082, 8260, 8270). *Solid & Hazardous Waste* (General Chemistry: EPA 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO, 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

**New York Department of Health** Certificate/Lab ID : 11627 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 376.2; Metals: 200.8, 245.1; Organics: 608-PCB). *Solid and Hazardous Waste* (General Chemistry: EPA 1010, 1311; : 200.8; 8081, 7041; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

**Rhode Island Department of Health** Certificate/Lab ID : LAO00289 - Chemistry: *Organic and Inorganic in Non-Poratable Water, Wastewater/Sewage and Soil* (Refer to LADEQ and MADEP certificates for method numbers.)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-02089 - Registered laboratory

**U.S. Army Corps of Engineers**

**Department of the Navy**