

**Environmental  
Resources  
Management**

One Beacon Street, 5<sup>th</sup> Floor  
Boston, MA 02108  
(617) 646-7800  
(617) 267-6447 (fax)

<http://www.erm.com>

1 August 2016  
Reference: 0321744

Mr. David Costello  
National Development  
2310 Washington Street  
Newton Lower Falls, MA 02462



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

Dear Mr. Costello:

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

Innovative Engineering Solutions, Inc. (IESI) collected groundwater samples from twelve monitoring wells located on National Development property in July 2016. These samples were submitted to Alpha Analytical Laboratories, Inc. of Westborough and Mansfield, Massachusetts, and/or TestAmerica Laboratories, Inc. of Amherst, NY for analysis. All analytical results are attached to this letter.


Raytheon has implemented the Public Involvement Process in accordance with 310 CMR 40.1405. Documents pertaining to the Site can be found at the Board of Health Public Involvement Plan files, or at <http://raytheon.erm.com/home.htm>.

If you have any questions or comments, please contact the undersigned at (617) 646-7800 or Jonathan Hone, Raytheon Company, at (978) 436-8298.

Mr. Costello  
1 August 2016  
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**Environmental  
Resources  
Management**

Sincerely,

A handwritten signature in blue ink, appearing to read "John C. Drobinski".

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

A handwritten signature in blue ink, appearing to read "Lyndsey Colburn".

Lyndsey Colburn, P.G.  
*Principal Consultant*

enclosures: BWSC-123 - Notice of Environmental Sampling  
Laboratory Analytical Reports (CD)

cc: Jonathan Hone, Raytheon Company  
PIP Repositories



**NOTICE OF ENVIRONMENTAL SAMPLING**

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

-

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

1. Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_

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

1. Name: \_\_\_\_\_  
2. Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_

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

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

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

1. Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_

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

- |  |   |
|--|---|
| Immediate Response Action              | Phase III Feasibility Evaluation                              |
| Release Abatement Measure              | Phase IV Remedy Implementation Plan                           |
| Utility-related Abatement Measure      | Phase V/Remedy Operation Status                               |
| Phase I Initial Site Investigation     | Post-Temporary Solution Operation, Maintenance and Monitoring |
| Phase II Comprehensive Site Assessment | Other _____   |
- (specify)

3. Description of property where sampling will be/has been conducted:  
residential      commercial      industrial      school/playground      Other \_\_\_\_\_  
(specify)

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

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

Contact Name: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_



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

**BWSC123**

This Notice is Related to:  
Release Tracking Number

-

**NOTICE OF ENVIRONMENTAL SAMPLING**

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

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

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

THE PERSON(S) PROVIDING THIS NOTICE

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

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

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

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

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/eea/agencies/massdep/cleanup>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://public.dep.state.ma.us/SearchableSites2/Search.aspx> to view site-specific files on-line or <http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html> if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-102619-1

Client Project/Site: IDS Wayland

For:

Innovative Engineering Solutions, Inc

25 Spring Street

Walpole, Massachusetts 02081

Attn: Vicki Pariyar



Authorized for release by:

7/13/2016 10:48:40 AM

Rebecca Jones, Project Management Assistant I

[rebecca.jones@testamericainc.com](mailto:rebecca.jones@testamericainc.com)

Designee for

Becky Mason, Project Manager II

(413)572-4000

[becky.mason@testamericainc.com](mailto:becky.mason@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Job ID: 480-102619-1**

**Laboratory: TestAmerica Buffalo**

## Narrative

### Job Narrative 480-102619-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/6/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

#### GC/MS VOA

Method 8260C: Due to the dilutions required, per question G on the MassDEP Analytical Protocol Certification Form, the CAM reporting limits specified in this CAM protocol could not be achieved for some or all samples/analytes.

Method 8260C: With the exception of diluted samples, per question G on the MassDEP Analytical Protocol Certification Form, TestAmerica's routine reporting limits do not achieve the CAM reporting limits specified in this CAM protocol for 1,2-dibromo-3-chloropropane, Carbon Disulfide, Isopropyl Ether, Naphthalene, tert-Amyl Methyl Ether and Tetrahydrofuran.

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-267S-20160705 (480-102619-1) and MW-268S-20160705 (480-102619-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) for Dichlorodifluoromethane and Chloromethane associated with batch 480-309931 recovered outside the MCP control limit criteria. MCP protocol allows for 20% of the target compounds to be outside the 20% difference but not over 40% difference. The following samples were affected : MW-267S-20160705 (480-102619-1), MW-267M-20160705 (480-102619-2), MW-268S-20160705 (480-102619-3), MW-563-20160705 (480-102619-6) and TRIP BLANK (480-102619-8).

Method(s) 8260C: The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for batch 480-309931 exceeded control limits for the following analyte: 2-Hexanone . Unlike the calibration standards, this is due to the coelution with N-Butyl Acetate in the spiking solution. This does not indicate a performance issue with the spike recovery, but rather the laboratory's ability to measure the two analytes together in a combined spiking solution. Through the use of spectral analysis, the two compounds can be distinguished from one another if present in a client sample. The following samples were affected : MW-267S-20160705 (480-102619-1), MW-267M-20160705 (480-102619-2), MW-268S-20160705 (480-102619-3), MW-563-20160705 (480-102619-6) and TRIP BLANK (480-102619-8).

Method(s) 8260C: The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for batch 480-309931 exceeded control limits for the following analyte: Dichlorodifluoromethane. MCP protocol allows for 10% of the target compounds to be outside of the limits provided the recoveries are over 10%. The following samples were affected : MW-267S-20160705 (480-102619-1), MW-267M-20160705 (480-102619-2), MW-268S-20160705 (480-102619-3), MW-563-20160705 (480-102619-6) and TRIP BLANK (480-102619-8).

Method(s) 8260C: The laboratory control sample (LCS) for batch 480-309931 exceeded control limits for the following analytes: Chloromethane and Vinyl chloride. MCP protocol allows for 10% of the target compounds to be outside of the limits provided the recoveries are over 10%. The following samples were affected : MW-267S-20160705 (480-102619-1), MW-267M-20160705 (480-102619-2), MW-268S-20160705 (480-102619-3), MW-563-20160705 (480-102619-6) and TRIP BLANK (480-102619-8).

Method(s) 8260C: The continuing calibration verification (CCV) for carbon disulfide associated with batch 480-309992 recovered outside the MCP control limit criteria. MCP protocol allows for 20% of the target compounds to be outside the 20% difference but not over 40% difference. Difficult analytes are allowed to be outside the 20% difference but not over 60% difference. The following samples were affected : MW-268M-20160705 (480-102619-4), MW-561-20160705 (480-102619-5) and DUP1-20160705 (480-102619-7).

Method(s) 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-309992 exceeded control limits for the following analytes: Carbon disulfide and Dichlorodifluoromethane. MCP protocol allows for 10% of the target compounds to be outside of the limits provided the recoveries are over 10%. The following samples were affected : MW-268M-20160705 (480-102619-4), MW-561-20160705 (480-102619-5) and DUP1-20160705 (480-102619-7).



# Case Narrative

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Job ID: 480-102619-1 (Continued)

### Laboratory: TestAmerica Buffalo (Continued)

Method(s) 8260C: The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for batch 480-309992 exceeded control limits for the following analyte: 2-Hexanone . Unlike the calibration standards, this is due to the coelution with n-butyl Acetate in the spiking solution. This does not indicate a performance issue with the spike recovery, but rather the laboratory's ability to measure the two analytes together in a combined spiking solution. Through the use of spectral analysis, the two compounds can be distinguished from one another if present in a client sample. The following samples were affected : MW-268M-20160705 (480-102619-4), MW-561-20160705 (480-102619-5) and DUP1-20160705 (480-102619-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### HPLC/IC

Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: MW-267S-20160705 (480-102619-1), MW-267M-20160705 (480-102619-2), MW-561-20160705 (480-102619-5) and MW-563-20160705 (480-102619-6). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted due to the abundance of non-target analytes: MW-268M-20160705 (480-102619-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Method 6010C: At the request of the client, an abbreviated MCP compound list was reported for this job.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### General Chemistry

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-267S-20160705 (480-102619-1), MW-267M-20160705 (480-102619-2), MW-268S-20160705 (480-102619-3), MW-268M-20160705 (480-102619-4), MW-561-20160705 (480-102619-5) and MW-563-20160705 (480-102619-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## MassDEP Analytical Protocol Certification Form

Laboratory Name: **TestAmerica Buffalo** Project #: **480-102619-1**

Project Location: **Wayland** RTN: \_\_\_\_\_

**This form provides certifications for the following data set: list Laboratory Sample ID Number(s):**

**480-102619-1(1-8)**

Matrices:  Groundwater/Surface Water  Soil/Sediment  Drinking Water  Air  Other:

**CAM Protocols (check all that apply below):**

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B	Mass DEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

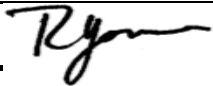
<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B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

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>H</b>	Were <b>all</b> QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

*I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.*

Signature: \_\_\_\_\_  \_\_\_\_\_ Position: Project Management Assistant

Printed Name: Rebecca Jones Date: 7/13/16 10:48

# Detection Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Client Sample ID: MW-267S-20160705

## Lab Sample ID: 480-102619-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	350		40		ug/L	4		8260C	Total/NA
cis-1,2-Dichloroethene	270		4.0		ug/L	4		8260C	Total/NA
Toluene	96		4.0		ug/L	4		8260C	Total/NA
Vinyl chloride	14	*	4.0		ug/L	4		8260C	Total/NA
Iron	340		0.050		mg/L	1		6010	Total/NA
Chloride	56		5.0		mg/L	10		300.0	Total/NA
Ammonia	0.40	F1	0.20		mg/L	1		350.1	Total/NA
TOC Result 1	1900		50		mg/L	50		9060A	Total/NA
TOC Result 2	2000		50		mg/L	50		9060A	Total/NA
Total Organic Carbon - Duplicates	2000		50		mg/L	50		9060A	Total/NA
Alkalinity, Total	510		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.43		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.17	HF	0.100		SU	1		9040C	Total/NA

## Client Sample ID: MW-267M-20160705

## Lab Sample ID: 480-102619-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	3.4		1.0		ug/L	1		8260C	Total/NA
Iron	97		0.050		mg/L	1		6010	Total/NA
Chloride	23		2.5		mg/L	5		300.0	Total/NA
Sulfate	2.7		2.0		mg/L	1		300.0	Total/NA
Ammonia	0.77		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	8.1		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	8.1		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	8.1		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	280		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.12		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.68	HF	0.100		SU	1		9040C	Total/NA

## Client Sample ID: MW-268S-20160705

## Lab Sample ID: 480-102619-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	70		5.0		ug/L	5		8260C	Total/NA
Trichloroethene	150		5.0		ug/L	5		8260C	Total/NA
Vinyl chloride	5.2	*	5.0		ug/L	5		8260C	Total/NA
Iron	0.40		0.050		mg/L	1		6010	Total/NA
Chloride	14		0.50		mg/L	1		300.0	Total/NA
Sulfate	35		2.0		mg/L	1		300.0	Total/NA
Ammonia	0.29		0.20		mg/L	1		350.1	Total/NA
Alkalinity, Total	40		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.087		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.06	HF	0.100		SU	1		9040C	Total/NA

## Client Sample ID: MW-268M-20160705

## Lab Sample ID: 480-102619-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	110		10		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

# Detection Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Client Sample ID: MW-268M-20160705 (Continued)

## Lab Sample ID: 480-102619-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.4		1.0		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	58		1.0		ug/L	1		8260C	Total/NA
Toluene	8.1		1.0		ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	2.0		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	43		1.0		ug/L	1		8260C	Total/NA
Iron	82		0.050		mg/L	1		6010	Total/NA
Chloride	41		1.0		mg/L	2		300.0	Total/NA
Ammonia	1.9		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	81		2.0		mg/L	2		9060A	Total/NA
TOC Result 2	84		2.0		mg/L	2		9060A	Total/NA
Total Organic Carbon - Duplicates	82		2.0		mg/L	2		9060A	Total/NA
Alkalinity, Total	280		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.13		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.76	HF	0.100		SU	1		9040C	Total/NA

## Client Sample ID: MW-561-20160705

## Lab Sample ID: 480-102619-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	18		10		ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	3.1		2.0		ug/L	1		8260C	Total/NA
Toluene	14		1.0		ug/L	1		8260C	Total/NA
Iron	190		0.050		mg/L	1		6010	Total/NA
Chloride	44		5.0		mg/L	10		300.0	Total/NA
Ammonia	2.2		0.40		mg/L	2		350.1	Total/NA
TOC Result 1	13		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	13		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	13		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	530		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.21		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.82	HF	0.100		SU	1		9040C	Total/NA

## Client Sample ID: MW-563-20160705

## Lab Sample ID: 480-102619-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	80		0.050		mg/L	1		6010	Total/NA
Chloride	28		2.5		mg/L	5		300.0	Total/NA
Ammonia	1.9		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	1.6		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	1.7		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	1.6		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	340		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.091		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.78	HF	0.100		SU	1		9040C	Total/NA

## Client Sample ID: DUP1-20160705

## Lab Sample ID: 480-102619-7

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

# Detection Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Client Sample ID: DUP1-20160705 (Continued)

Lab Sample ID: 480-102619-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	120		10		ug/L	1		8260C	Total/NA
Benzene	1.3		1.0		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	46		1.0		ug/L	1		8260C	Total/NA
Toluene	8.4		1.0		ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.9		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	38		1.0		ug/L	1		8260C	Total/NA

## Client Sample ID: TRIP BLANK

Lab Sample ID: 480-102619-8

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo



# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-267S-20160705**

**Lab Sample ID: 480-102619-1**

**Date Collected: 07/05/16 10:50**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.0		ug/L			07/07/16 01:33	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/07/16 01:33	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/07/16 01:33	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/07/16 01:33	4
1,1-Dichloroethane	ND		4.0		ug/L			07/07/16 01:33	4
1,1-Dichloroethene	ND		4.0		ug/L			07/07/16 01:33	4
1,1-Dichloropropene	ND		4.0		ug/L			07/07/16 01:33	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/07/16 01:33	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/07/16 01:33	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,2-Dichloroethane	ND		4.0		ug/L			07/07/16 01:33	4
1,2-Dichloropropane	ND		4.0		ug/L			07/07/16 01:33	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,3-Dichloropropane	ND		4.0		ug/L			07/07/16 01:33	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/07/16 01:33	4
1,4-Dioxane	ND		200		ug/L			07/07/16 01:33	4
2,2-Dichloropropane	ND		4.0		ug/L			07/07/16 01:33	4
<b>2-Butanone (MEK)</b>	<b>350</b>		40		ug/L			07/07/16 01:33	4
2-Chlorotoluene	ND		4.0		ug/L			07/07/16 01:33	4
2-Hexanone	ND	*	40		ug/L			07/07/16 01:33	4
4-Chlorotoluene	ND		4.0		ug/L			07/07/16 01:33	4
4-Isopropyltoluene	ND		4.0		ug/L			07/07/16 01:33	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/07/16 01:33	4
Acetone	ND		200		ug/L			07/07/16 01:33	4
Benzene	ND		4.0		ug/L			07/07/16 01:33	4
Bromobenzene	ND		4.0		ug/L			07/07/16 01:33	4
Bromoform	ND		4.0		ug/L			07/07/16 01:33	4
Bromomethane	ND		8.0		ug/L			07/07/16 01:33	4
Carbon disulfide	ND		40		ug/L			07/07/16 01:33	4
Carbon tetrachloride	ND		4.0		ug/L			07/07/16 01:33	4
Chlorobenzene	ND		4.0		ug/L			07/07/16 01:33	4
Chlorobromomethane	ND		4.0		ug/L			07/07/16 01:33	4
Chlorodibromomethane	ND		2.0		ug/L			07/07/16 01:33	4
Chloroethane	ND		8.0		ug/L			07/07/16 01:33	4
Chloroform	ND		4.0		ug/L			07/07/16 01:33	4
Chloromethane	ND	*	8.0		ug/L			07/07/16 01:33	4
<b>cis-1,2-Dichloroethene</b>	<b>270</b>		4.0		ug/L			07/07/16 01:33	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/07/16 01:33	4
Dichlorobromomethane	ND		2.0		ug/L			07/07/16 01:33	4
Dichlorodifluoromethane	ND	*	4.0		ug/L			07/07/16 01:33	4
Ethyl ether	ND		4.0		ug/L			07/07/16 01:33	4
Ethylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
Ethylene Dibromide	ND		4.0		ug/L			07/07/16 01:33	4
Hexachlorobutadiene	ND		1.6		ug/L			07/07/16 01:33	4
Isopropyl ether	ND		40		ug/L			07/07/16 01:33	4

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-267S-20160705**

**Lab Sample ID: 480-102619-1**

Date Collected: 07/05/16 10:50

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/07/16 01:33	4
Methylene Chloride	ND		4.0		ug/L			07/07/16 01:33	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/07/16 01:33	4
Naphthalene	ND		20		ug/L			07/07/16 01:33	4
n-Butylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
N-Propylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
o-Xylene	ND		4.0		ug/L			07/07/16 01:33	4
sec-Butylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
Styrene	ND		4.0		ug/L			07/07/16 01:33	4
Tert-amyl methyl ether	ND		20		ug/L			07/07/16 01:33	4
Tert-butyl ethyl ether	ND		20		ug/L			07/07/16 01:33	4
tert-Butylbenzene	ND		4.0		ug/L			07/07/16 01:33	4
Tetrachloroethene	ND		4.0		ug/L			07/07/16 01:33	4
Tetrahydrofuran	ND		40		ug/L			07/07/16 01:33	4
<b>Toluene</b>	<b>96</b>		4.0		ug/L			07/07/16 01:33	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/07/16 01:33	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/07/16 01:33	4
Trichloroethene	ND		4.0		ug/L			07/07/16 01:33	4
Trichlorofluoromethane	ND		4.0		ug/L			07/07/16 01:33	4
<b>Vinyl chloride</b>	<b>14 *</b>		4.0		ug/L			07/07/16 01:33	4
Dibromomethane	ND		4.0		ug/L			07/07/16 01:33	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		70 - 130		07/07/16 01:33	4
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		07/07/16 01:33	4
4-Bromofluorobenzene (Surr)	93		70 - 130		07/07/16 01:33	4

**Method: 6010 - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>340</b>		0.050		mg/L		07/07/16 08:55	07/07/16 18:43	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>56</b>		5.0		mg/L			07/07/16 12:22	10
Sulfate	ND		20		mg/L			07/07/16 12:22	10
<b>Ammonia</b>	<b>0.40</b>	<b>F1</b>	0.20		mg/L		07/07/16 20:47	07/08/16 17:18	1
Nitrate as N	ND		0.050		mg/L			07/06/16 16:23	1
<b>TOC Result 1</b>	<b>1900</b>		50		mg/L			07/08/16 04:59	50
<b>TOC Result 2</b>	<b>2000</b>		50		mg/L			07/08/16 04:59	50
<b>Total Organic Carbon - Duplicates</b>	<b>2000</b>		50		mg/L			07/08/16 04:59	50
<b>Alkalinity, Total</b>	<b>510</b>		5.0		mg/L			07/06/16 17:59	1
<b>ortho-Phosphate</b>	<b>0.43</b>		0.020		mg/L			07/06/16 11:33	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>5.17</b>	<b>HF</b>	0.100		SU			07/07/16 11:12	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-267M-20160705**

**Lab Sample ID: 480-102619-2**

**Date Collected: 07/05/16 11:30**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 01:58	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 01:58	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 01:58	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 01:58	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 01:58	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 01:58	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 01:58	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 01:58	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 01:58	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 01:58	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 01:58	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 01:58	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 01:58	1
1,4-Dioxane	ND		50		ug/L			07/07/16 01:58	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 01:58	1
2-Butanone (MEK)	ND		10		ug/L			07/07/16 01:58	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 01:58	1
2-Hexanone	ND *		10		ug/L			07/07/16 01:58	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 01:58	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 01:58	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 01:58	1
Acetone	ND		50		ug/L			07/07/16 01:58	1
Benzene	ND		1.0		ug/L			07/07/16 01:58	1
Bromobenzene	ND		1.0		ug/L			07/07/16 01:58	1
Bromoform	ND		1.0		ug/L			07/07/16 01:58	1
Bromomethane	ND		2.0		ug/L			07/07/16 01:58	1
Carbon disulfide	ND		10		ug/L			07/07/16 01:58	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 01:58	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 01:58	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 01:58	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 01:58	1
Chloroethane	ND		2.0		ug/L			07/07/16 01:58	1
Chloroform	ND		1.0		ug/L			07/07/16 01:58	1
Chloromethane	ND *		2.0		ug/L			07/07/16 01:58	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 01:58	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 01:58	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 01:58	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/07/16 01:58	1
Ethyl ether	ND		1.0		ug/L			07/07/16 01:58	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 01:58	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 01:58	1
Isopropyl ether	ND		10		ug/L			07/07/16 01:58	1

TestAmerica Buffalo



# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-267M-20160705**

**Lab Sample ID: 480-102619-2**

Date Collected: 07/05/16 11:30

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 01:58	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 01:58	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 01:58	1
Naphthalene	ND		5.0		ug/L			07/07/16 01:58	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
o-Xylene	ND		1.0		ug/L			07/07/16 01:58	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
Styrene	ND		1.0		ug/L			07/07/16 01:58	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 01:58	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 01:58	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 01:58	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 01:58	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 01:58	1
<b>Toluene</b>	<b>3.4</b>		1.0		ug/L			07/07/16 01:58	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 01:58	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 01:58	1
Trichloroethene	ND		1.0		ug/L			07/07/16 01:58	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 01:58	1
Vinyl chloride	ND *		1.0		ug/L			07/07/16 01:58	1
Dibromomethane	ND		1.0		ug/L			07/07/16 01:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	91		70 - 130		07/07/16 01:58	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		07/07/16 01:58	1
4-Bromofluorobenzene (Surr)	91		70 - 130		07/07/16 01:58	1

**Method: 6010 - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	97		0.050		mg/L		07/07/16 08:55	07/07/16 19:02	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		2.5		mg/L			07/07/16 12:30	5
Sulfate	2.7		2.0		mg/L			07/08/16 13:37	1
Ammonia	0.77		0.20		mg/L		07/07/16 20:47	07/08/16 17:20	1
Nitrate as N	ND		0.050		mg/L			07/06/16 16:24	1
TOC Result 1	8.1		1.0		mg/L			07/08/16 05:28	1
TOC Result 2	8.1		1.0		mg/L			07/08/16 05:28	1
Total Organic Carbon - Duplicates	8.1		1.0		mg/L			07/08/16 05:28	1
Alkalinity, Total	280		5.0		mg/L			07/06/16 18:06	1
ortho-Phosphate	0.12		0.020		mg/L			07/06/16 11:33	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.68	HF	0.100		SU			07/07/16 11:15	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-268S-20160705**

**Lab Sample ID: 480-102619-3**

Date Collected: 07/05/16 09:15

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/07/16 02:23	5
1,1,1-Trichloroethane	ND		5.0		ug/L			07/07/16 02:23	5
1,1,2,2-Tetrachloroethane	ND		2.5		ug/L			07/07/16 02:23	5
1,1,2-Trichloroethane	ND		5.0		ug/L			07/07/16 02:23	5
1,1-Dichloroethane	ND		5.0		ug/L			07/07/16 02:23	5
1,1-Dichloroethene	ND		5.0		ug/L			07/07/16 02:23	5
1,1-Dichloropropene	ND		5.0		ug/L			07/07/16 02:23	5
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,2,3-Trichloropropane	ND		5.0		ug/L			07/07/16 02:23	5
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,2,4-Trimethylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,2-Dibromo-3-Chloropropane	ND		25		ug/L			07/07/16 02:23	5
1,2-Dichlorobenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,2-Dichloroethane	ND		5.0		ug/L			07/07/16 02:23	5
1,2-Dichloropropane	ND		5.0		ug/L			07/07/16 02:23	5
1,3,5-Trimethylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,3-Dichlorobenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,3-Dichloropropane	ND		5.0		ug/L			07/07/16 02:23	5
1,4-Dichlorobenzene	ND		5.0		ug/L			07/07/16 02:23	5
1,4-Dioxane	ND		250		ug/L			07/07/16 02:23	5
2,2-Dichloropropane	ND		5.0		ug/L			07/07/16 02:23	5
2-Butanone (MEK)	ND		50		ug/L			07/07/16 02:23	5
2-Chlorotoluene	ND		5.0		ug/L			07/07/16 02:23	5
2-Hexanone	ND *		50		ug/L			07/07/16 02:23	5
4-Chlorotoluene	ND		5.0		ug/L			07/07/16 02:23	5
4-Isopropyltoluene	ND		5.0		ug/L			07/07/16 02:23	5
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			07/07/16 02:23	5
Acetone	ND		250		ug/L			07/07/16 02:23	5
Benzene	ND		5.0		ug/L			07/07/16 02:23	5
Bromobenzene	ND		5.0		ug/L			07/07/16 02:23	5
Bromoform	ND		5.0		ug/L			07/07/16 02:23	5
Bromomethane	ND		10		ug/L			07/07/16 02:23	5
Carbon disulfide	ND		50		ug/L			07/07/16 02:23	5
Carbon tetrachloride	ND		5.0		ug/L			07/07/16 02:23	5
Chlorobenzene	ND		5.0		ug/L			07/07/16 02:23	5
Chlorobromomethane	ND		5.0		ug/L			07/07/16 02:23	5
Chlorodibromomethane	ND		2.5		ug/L			07/07/16 02:23	5
Chloroethane	ND		10		ug/L			07/07/16 02:23	5
Chloroform	ND		5.0		ug/L			07/07/16 02:23	5
Chloromethane	ND *		10		ug/L			07/07/16 02:23	5
<b>cis-1,2-Dichloroethene</b>	<b>70</b>		5.0		ug/L			07/07/16 02:23	5
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/07/16 02:23	5
Dichlorobromomethane	ND		2.5		ug/L			07/07/16 02:23	5
Dichlorodifluoromethane	ND *		5.0		ug/L			07/07/16 02:23	5
Ethyl ether	ND		5.0		ug/L			07/07/16 02:23	5
Ethylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
Ethylene Dibromide	ND		5.0		ug/L			07/07/16 02:23	5
Hexachlorobutadiene	ND		2.0		ug/L			07/07/16 02:23	5
Isopropyl ether	ND		50		ug/L			07/07/16 02:23	5

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-268S-20160705**

**Lab Sample ID: 480-102619-3**

Date Collected: 07/05/16 09:15

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
Methyl tert-butyl ether	ND		5.0		ug/L			07/07/16 02:23	5
Methylene Chloride	ND		5.0		ug/L			07/07/16 02:23	5
m-Xylene & p-Xylene	ND		10		ug/L			07/07/16 02:23	5
Naphthalene	ND		25		ug/L			07/07/16 02:23	5
n-Butylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
N-Propylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
o-Xylene	ND		5.0		ug/L			07/07/16 02:23	5
sec-Butylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
Styrene	ND		5.0		ug/L			07/07/16 02:23	5
Tert-amyl methyl ether	ND		25		ug/L			07/07/16 02:23	5
Tert-butyl ethyl ether	ND		25		ug/L			07/07/16 02:23	5
tert-Butylbenzene	ND		5.0		ug/L			07/07/16 02:23	5
Tetrachloroethene	ND		5.0		ug/L			07/07/16 02:23	5
Tetrahydrofuran	ND		50		ug/L			07/07/16 02:23	5
Toluene	ND		5.0		ug/L			07/07/16 02:23	5
trans-1,2-Dichloroethene	ND		5.0		ug/L			07/07/16 02:23	5
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/07/16 02:23	5
<b>Trichloroethene</b>	<b>150</b>		5.0		ug/L			07/07/16 02:23	5
Trichlorofluoromethane	ND		5.0		ug/L			07/07/16 02:23	5
<b>Vinyl chloride</b>	<b>5.2 *</b>		5.0		ug/L			07/07/16 02:23	5
Dibromomethane	ND		5.0		ug/L			07/07/16 02:23	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130		07/07/16 02:23	5
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		07/07/16 02:23	5
4-Bromofluorobenzene (Surr)	90		70 - 130		07/07/16 02:23	5

**Method: 6010 - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>0.40</b>		0.050		mg/L		07/07/16 08:55	07/07/16 19:05	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>14</b>		0.50		mg/L			07/07/16 12:39	1
<b>Sulfate</b>	<b>35</b>		2.0		mg/L			07/07/16 12:39	1
<b>Ammonia</b>	<b>0.29</b>		0.20		mg/L		07/07/16 20:47	07/08/16 17:20	1
Nitrate as N	ND		0.050		mg/L			07/06/16 16:25	1
TOC Result 1	ND		1.0		mg/L			07/08/16 06:27	1
TOC Result 2	ND		1.0		mg/L			07/08/16 06:27	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/08/16 06:27	1
<b>Alkalinity, Total</b>	<b>40</b>		5.0		mg/L			07/06/16 18:12	1
<b>ortho-Phosphate</b>	<b>0.087</b>		0.020		mg/L			07/06/16 11:33	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.06</b>	<b>HF</b>	0.100		SU			07/07/16 11:18	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-268M-20160705**

**Lab Sample ID: 480-102619-4**

**Date Collected: 07/05/16 09:55**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 12:31	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 12:31	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 12:31	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 12:31	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 12:31	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 12:31	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 12:31	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 12:31	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 12:31	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 12:31	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 12:31	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 12:31	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 12:31	1
1,4-Dioxane	ND		50		ug/L			07/07/16 12:31	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 12:31	1
<b>2-Butanone (MEK)</b>	<b>110</b>		10		ug/L			07/07/16 12:31	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 12:31	1
2-Hexanone	ND *		10		ug/L			07/07/16 12:31	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 12:31	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 12:31	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 12:31	1
Acetone	ND		50		ug/L			07/07/16 12:31	1
<b>Benzene</b>	<b>1.4</b>		1.0		ug/L			07/07/16 12:31	1
Bromobenzene	ND		1.0		ug/L			07/07/16 12:31	1
Bromoform	ND		1.0		ug/L			07/07/16 12:31	1
Bromomethane	ND		2.0		ug/L			07/07/16 12:31	1
Carbon disulfide	ND *		10		ug/L			07/07/16 12:31	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 12:31	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 12:31	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 12:31	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 12:31	1
Chloroethane	ND		2.0		ug/L			07/07/16 12:31	1
Chloroform	ND		1.0		ug/L			07/07/16 12:31	1
Chloromethane	ND		2.0		ug/L			07/07/16 12:31	1
<b>cis-1,2-Dichloroethene</b>	<b>58</b>		1.0		ug/L			07/07/16 12:31	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 12:31	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 12:31	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/07/16 12:31	1
Ethyl ether	ND		1.0		ug/L			07/07/16 12:31	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 12:31	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 12:31	1
Isopropyl ether	ND		10		ug/L			07/07/16 12:31	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-268M-20160705**

**Lab Sample ID: 480-102619-4**

**Date Collected: 07/05/16 09:55**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 12:31	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 12:31	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 12:31	1
Naphthalene	ND		5.0		ug/L			07/07/16 12:31	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
o-Xylene	ND		1.0		ug/L			07/07/16 12:31	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
Styrene	ND		1.0		ug/L			07/07/16 12:31	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 12:31	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 12:31	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 12:31	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 12:31	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 12:31	1
<b>Toluene</b>	<b>8.1</b>		1.0		ug/L			07/07/16 12:31	1
<b>trans-1,2-Dichloroethene</b>	<b>2.0</b>		1.0		ug/L			07/07/16 12:31	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 12:31	1
Trichloroethene	ND		1.0		ug/L			07/07/16 12:31	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 12:31	1
<b>Vinyl chloride</b>	<b>43</b>		1.0		ug/L			07/07/16 12:31	1
Dibromomethane	ND		1.0		ug/L			07/07/16 12:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130		07/07/16 12:31	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		07/07/16 12:31	1
4-Bromofluorobenzene (Surr)	92		70 - 130		07/07/16 12:31	1

**Method: 6010 - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>82</b>		0.050		mg/L		07/07/16 08:55	07/07/16 19:09	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>41</b>		1.0		mg/L			07/08/16 13:52	2
Sulfate	ND		4.0		mg/L			07/08/16 13:52	2
<b>Ammonia</b>	<b>1.9</b>		0.20		mg/L		07/07/16 20:47	07/08/16 17:21	1
Nitrate as N	ND		0.050		mg/L			07/06/16 16:26	1
<b>TOC Result 1</b>	<b>81</b>		2.0		mg/L			07/08/16 08:20	2
<b>TOC Result 2</b>	<b>84</b>		2.0		mg/L			07/08/16 08:20	2
<b>Total Organic Carbon - Duplicates</b>	<b>82</b>		2.0		mg/L			07/08/16 08:20	2
<b>Alkalinity, Total</b>	<b>280</b>		5.0		mg/L			07/06/16 18:18	1
<b>ortho-Phosphate</b>	<b>0.13</b>		0.020		mg/L			07/06/16 11:33	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>6.76</b>	<b>HF</b>	0.100		SU			07/07/16 11:23	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-561-20160705**

**Lab Sample ID: 480-102619-5**

Date Collected: 07/05/16 12:10

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 12:56	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 12:56	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 12:56	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 12:56	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 12:56	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 12:56	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 12:56	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 12:56	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 12:56	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 12:56	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 12:56	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 12:56	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 12:56	1
1,4-Dioxane	ND		50		ug/L			07/07/16 12:56	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 12:56	1
<b>2-Butanone (MEK)</b>	<b>18</b>		10		ug/L			07/07/16 12:56	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 12:56	1
2-Hexanone	ND *		10		ug/L			07/07/16 12:56	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 12:56	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 12:56	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 12:56	1
Acetone	ND		50		ug/L			07/07/16 12:56	1
Benzene	ND		1.0		ug/L			07/07/16 12:56	1
Bromobenzene	ND		1.0		ug/L			07/07/16 12:56	1
Bromoform	ND		1.0		ug/L			07/07/16 12:56	1
Bromomethane	ND		2.0		ug/L			07/07/16 12:56	1
Carbon disulfide	ND *		10		ug/L			07/07/16 12:56	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 12:56	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 12:56	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 12:56	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 12:56	1
Chloroethane	ND		2.0		ug/L			07/07/16 12:56	1
Chloroform	ND		1.0		ug/L			07/07/16 12:56	1
Chloromethane	ND		2.0		ug/L			07/07/16 12:56	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 12:56	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 12:56	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 12:56	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/07/16 12:56	1
Ethyl ether	ND		1.0		ug/L			07/07/16 12:56	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 12:56	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 12:56	1
Isopropyl ether	ND		10		ug/L			07/07/16 12:56	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-561-20160705**

**Lab Sample ID: 480-102619-5**

Date Collected: 07/05/16 12:10

Matrix: Water

Date Received: 07/06/16 09:45

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 12:56	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 12:56	1
<b>m-Xylene &amp; p-Xylene</b>	<b>3.1</b>		2.0		ug/L			07/07/16 12:56	1
Naphthalene	ND		5.0		ug/L			07/07/16 12:56	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
o-Xylene	ND		1.0		ug/L			07/07/16 12:56	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
Styrene	ND		1.0		ug/L			07/07/16 12:56	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 12:56	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 12:56	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 12:56	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 12:56	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 12:56	1
<b>Toluene</b>	<b>14</b>		1.0		ug/L			07/07/16 12:56	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 12:56	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 12:56	1
Trichloroethene	ND		1.0		ug/L			07/07/16 12:56	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 12:56	1
Vinyl chloride	ND		1.0		ug/L			07/07/16 12:56	1
Dibromomethane	ND		1.0		ug/L			07/07/16 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130		07/07/16 12:56	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		07/07/16 12:56	1
4-Bromofluorobenzene (Surr)	93		70 - 130		07/07/16 12:56	1

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	190		0.050		mg/L		07/07/16 08:55	07/07/16 19:23	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		5.0		mg/L			07/07/16 13:58	10
Sulfate	ND		2.0		mg/L			07/08/16 14:06	1
Ammonia	2.2		0.40		mg/L		07/07/16 20:47	07/08/16 17:44	2
Nitrate as N	ND		0.050		mg/L			07/06/16 16:28	1
TOC Result 1	13		1.0		mg/L			07/11/16 15:27	1
TOC Result 2	13		1.0		mg/L			07/11/16 15:27	1
Total Organic Carbon - Duplicates	13		1.0		mg/L			07/11/16 15:27	1
Alkalinity, Total	530		5.0		mg/L			07/06/16 18:27	1
ortho-Phosphate	0.21		0.020		mg/L			07/06/16 11:33	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.82	HF	0.100		SU			07/07/16 11:26	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-563-20160705**

**Lab Sample ID: 480-102619-6**

Date Collected: 07/05/16 12:55

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 03:38	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 03:38	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 03:38	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 03:38	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 03:38	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 03:38	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 03:38	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 03:38	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 03:38	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 03:38	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 03:38	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 03:38	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 03:38	1
1,4-Dioxane	ND		50		ug/L			07/07/16 03:38	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 03:38	1
2-Butanone (MEK)	ND		10		ug/L			07/07/16 03:38	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 03:38	1
2-Hexanone	ND *		10		ug/L			07/07/16 03:38	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 03:38	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 03:38	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 03:38	1
Acetone	ND		50		ug/L			07/07/16 03:38	1
Benzene	ND		1.0		ug/L			07/07/16 03:38	1
Bromobenzene	ND		1.0		ug/L			07/07/16 03:38	1
Bromoform	ND		1.0		ug/L			07/07/16 03:38	1
Bromomethane	ND		2.0		ug/L			07/07/16 03:38	1
Carbon disulfide	ND		10		ug/L			07/07/16 03:38	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 03:38	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 03:38	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 03:38	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 03:38	1
Chloroethane	ND		2.0		ug/L			07/07/16 03:38	1
Chloroform	ND		1.0		ug/L			07/07/16 03:38	1
Chloromethane	ND *		2.0		ug/L			07/07/16 03:38	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 03:38	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 03:38	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 03:38	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/07/16 03:38	1
Ethyl ether	ND		1.0		ug/L			07/07/16 03:38	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 03:38	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 03:38	1
Isopropyl ether	ND		10		ug/L			07/07/16 03:38	1

TestAmerica Buffalo



# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-563-20160705**

**Lab Sample ID: 480-102619-6**

Date Collected: 07/05/16 12:55

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 03:38	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 03:38	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 03:38	1
Naphthalene	ND		5.0		ug/L			07/07/16 03:38	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
o-Xylene	ND		1.0		ug/L			07/07/16 03:38	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
Styrene	ND		1.0		ug/L			07/07/16 03:38	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 03:38	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 03:38	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 03:38	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 03:38	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 03:38	1
Toluene	ND		1.0		ug/L			07/07/16 03:38	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 03:38	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 03:38	1
Trichloroethene	ND		1.0		ug/L			07/07/16 03:38	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 03:38	1
Vinyl chloride	ND *		1.0		ug/L			07/07/16 03:38	1
Dibromomethane	ND		1.0		ug/L			07/07/16 03:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		70 - 130		07/07/16 03:38	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		07/07/16 03:38	1
4-Bromofluorobenzene (Surr)	93		70 - 130		07/07/16 03:38	1

**Method: 6010 - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	80		0.050		mg/L		07/07/16 08:55	07/07/16 19:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		2.5		mg/L			07/07/16 14:07	5
Sulfate	ND		2.0		mg/L			07/08/16 14:21	1
Ammonia	1.9		0.20		mg/L		07/07/16 20:47	07/08/16 17:23	1
Nitrate as N	ND		0.050		mg/L			07/06/16 16:29	1
TOC Result 1	1.6		1.0		mg/L			07/08/16 09:47	1
TOC Result 2	1.7		1.0		mg/L			07/08/16 09:47	1
Total Organic Carbon - Duplicates	1.6		1.0		mg/L			07/08/16 09:47	1
Alkalinity, Total	340		5.0		mg/L			07/06/16 18:33	1
ortho-Phosphate	0.091		0.020		mg/L			07/06/16 11:33	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.78	HF	0.100		SU			07/07/16 11:29	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: DUP1-20160705**

**Lab Sample ID: 480-102619-7**

Date Collected: 07/05/16 00:00

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 13:21	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 13:21	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 13:21	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 13:21	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 13:21	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 13:21	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 13:21	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 13:21	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 13:21	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 13:21	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 13:21	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 13:21	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 13:21	1
1,4-Dioxane	ND		50		ug/L			07/07/16 13:21	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 13:21	1
<b>2-Butanone (MEK)</b>	<b>120</b>		10		ug/L			07/07/16 13:21	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 13:21	1
2-Hexanone	ND *		10		ug/L			07/07/16 13:21	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 13:21	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 13:21	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 13:21	1
Acetone	ND		50		ug/L			07/07/16 13:21	1
<b>Benzene</b>	<b>1.3</b>		1.0		ug/L			07/07/16 13:21	1
Bromobenzene	ND		1.0		ug/L			07/07/16 13:21	1
Bromoform	ND		1.0		ug/L			07/07/16 13:21	1
Bromomethane	ND		2.0		ug/L			07/07/16 13:21	1
Carbon disulfide	ND *		10		ug/L			07/07/16 13:21	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 13:21	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 13:21	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 13:21	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 13:21	1
Chloroethane	ND		2.0		ug/L			07/07/16 13:21	1
Chloroform	ND		1.0		ug/L			07/07/16 13:21	1
Chloromethane	ND		2.0		ug/L			07/07/16 13:21	1
<b>cis-1,2-Dichloroethene</b>	<b>46</b>		1.0		ug/L			07/07/16 13:21	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 13:21	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 13:21	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/07/16 13:21	1
Ethyl ether	ND		1.0		ug/L			07/07/16 13:21	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 13:21	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 13:21	1
Isopropyl ether	ND		10		ug/L			07/07/16 13:21	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: DUP1-20160705**

**Lab Sample ID: 480-102619-7**

**Date Collected: 07/05/16 00:00**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 13:21	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 13:21	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 13:21	1
Naphthalene	ND		5.0		ug/L			07/07/16 13:21	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
o-Xylene	ND		1.0		ug/L			07/07/16 13:21	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
Styrene	ND		1.0		ug/L			07/07/16 13:21	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 13:21	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 13:21	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 13:21	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 13:21	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 13:21	1
<b>Toluene</b>	<b>8.4</b>		1.0		ug/L			07/07/16 13:21	1
<b>trans-1,2-Dichloroethene</b>	<b>1.9</b>		1.0		ug/L			07/07/16 13:21	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 13:21	1
Trichloroethene	ND		1.0		ug/L			07/07/16 13:21	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 13:21	1
<b>Vinyl chloride</b>	<b>38</b>		1.0		ug/L			07/07/16 13:21	1
Dibromomethane	ND		1.0		ug/L			07/07/16 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130		07/07/16 13:21	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		07/07/16 13:21	1
4-Bromofluorobenzene (Surr)	91		70 - 130		07/07/16 13:21	1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-102619-8**

**Date Collected: 07/05/16 00:00**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 04:28	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 04:28	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 04:28	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 04:28	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 04:28	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 04:28	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 04:28	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 04:28	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 04:28	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 04:28	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 04:28	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 04:28	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 04:28	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 04:28	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 04:28	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-102619-8**

Date Collected: 07/05/16 00:00

Matrix: Water

Date Received: 07/06/16 09:45

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 04:28	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 04:28	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 04:28	1
1,4-Dioxane	ND		50		ug/L			07/07/16 04:28	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 04:28	1
2-Butanone (MEK)	ND		10		ug/L			07/07/16 04:28	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 04:28	1
2-Hexanone	ND	*	10		ug/L			07/07/16 04:28	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 04:28	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 04:28	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 04:28	1
Acetone	ND		50		ug/L			07/07/16 04:28	1
Benzene	ND		1.0		ug/L			07/07/16 04:28	1
Bromobenzene	ND		1.0		ug/L			07/07/16 04:28	1
Bromoform	ND		1.0		ug/L			07/07/16 04:28	1
Bromomethane	ND		2.0		ug/L			07/07/16 04:28	1
Carbon disulfide	ND		10		ug/L			07/07/16 04:28	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 04:28	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 04:28	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 04:28	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 04:28	1
Chloroethane	ND		2.0		ug/L			07/07/16 04:28	1
Chloroform	ND		1.0		ug/L			07/07/16 04:28	1
Chloromethane	ND	*	2.0		ug/L			07/07/16 04:28	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 04:28	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 04:28	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 04:28	1
Dichlorodifluoromethane	ND	*	1.0		ug/L			07/07/16 04:28	1
Ethyl ether	ND		1.0		ug/L			07/07/16 04:28	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 04:28	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 04:28	1
Isopropyl ether	ND		10		ug/L			07/07/16 04:28	1
Isopropylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 04:28	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 04:28	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 04:28	1
Naphthalene	ND		5.0		ug/L			07/07/16 04:28	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
o-Xylene	ND		1.0		ug/L			07/07/16 04:28	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
Styrene	ND		1.0		ug/L			07/07/16 04:28	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 04:28	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 04:28	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 04:28	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 04:28	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 04:28	1
Toluene	ND		1.0		ug/L			07/07/16 04:28	1

TestAmerica Buffalo

# Client Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-102619-8**

**Date Collected: 07/05/16 00:00**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

**Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 04:28	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 04:28	1
Trichloroethene	ND		1.0		ug/L			07/07/16 04:28	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 04:28	1
Vinyl chloride	ND	*	1.0		ug/L			07/07/16 04:28	1
Dibromomethane	ND		1.0		ug/L			07/07/16 04:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		70 - 130		07/07/16 04:28	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		07/07/16 04:28	1
4-Bromofluorobenzene (Surr)	88		70 - 130		07/07/16 04:28	1

# Surrogate Summary

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	12DCE (70-130)	BFB (70-130)
480-102619-1	MW-267S-20160705	102	99	93
480-102619-2	MW-267M-20160705	91	107	91
480-102619-3	MW-268S-20160705	94	102	90
480-102619-4	MW-268M-20160705	94	103	92
480-102619-5	MW-561-20160705	94	109	93
480-102619-6	MW-563-20160705	93	107	93
480-102619-7	DUP1-20160705	94	102	91
480-102619-8	TRIP BLANK	92	112	88
LCS 480-309931/10	Lab Control Sample	92	92	94
LCS 480-309992/5	Lab Control Sample	96	98	98
LCSD 480-309931/8	Lab Control Sample Dup	94	87	96
LCSD 480-309992/6	Lab Control Sample Dup	95	85	99
MB 480-309931/7	Method Blank	94	101	93
MB 480-309992/8	Method Blank	91	105	89

### Surrogate Legend

TOL = Toluene-d8 (Surr)

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 480-309931/7**

**Matrix: Water**

**Analysis Batch: 309931**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 00:55	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 00:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 00:55	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 00:55	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 00:55	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 00:55	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 00:55	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 00:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 00:55	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 00:55	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 00:55	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 00:55	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 00:55	1
1,4-Dioxane	ND		50		ug/L			07/07/16 00:55	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 00:55	1
2-Butanone (MEK)	ND		10		ug/L			07/07/16 00:55	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 00:55	1
2-Hexanone	ND		10		ug/L			07/07/16 00:55	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 00:55	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 00:55	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 00:55	1
Acetone	ND		50		ug/L			07/07/16 00:55	1
Benzene	ND		1.0		ug/L			07/07/16 00:55	1
Bromobenzene	ND		1.0		ug/L			07/07/16 00:55	1
Bromoform	ND		1.0		ug/L			07/07/16 00:55	1
Bromomethane	ND		2.0		ug/L			07/07/16 00:55	1
Carbon disulfide	ND		10		ug/L			07/07/16 00:55	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 00:55	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 00:55	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 00:55	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 00:55	1
Chloroethane	ND		2.0		ug/L			07/07/16 00:55	1
Chloroform	ND		1.0		ug/L			07/07/16 00:55	1
Chloromethane	ND		2.0		ug/L			07/07/16 00:55	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 00:55	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 00:55	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 00:55	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/07/16 00:55	1
Ethyl ether	ND		1.0		ug/L			07/07/16 00:55	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 00:55	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 00:55	1

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# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 480-309931/7**

**Matrix: Water**

**Analysis Batch: 309931**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Isopropyl ether	ND		10		ug/L			07/07/16 00:55	1
Isopropylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 00:55	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 00:55	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 00:55	1
Naphthalene	ND		5.0		ug/L			07/07/16 00:55	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
o-Xylene	ND		1.0		ug/L			07/07/16 00:55	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
Styrene	ND		1.0		ug/L			07/07/16 00:55	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 00:55	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 00:55	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 00:55	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 00:55	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 00:55	1
Toluene	ND		1.0		ug/L			07/07/16 00:55	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 00:55	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 00:55	1
Trichloroethene	ND		1.0		ug/L			07/07/16 00:55	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 00:55	1
Vinyl chloride	ND		1.0		ug/L			07/07/16 00:55	1
Dibromomethane	ND		1.0		ug/L			07/07/16 00:55	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	94		70 - 130		07/07/16 00:55	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		07/07/16 00:55	1
4-Bromofluorobenzene (Surr)	93		70 - 130		07/07/16 00:55	1

**Lab Sample ID: LCS 480-309931/10**

**Matrix: Water**

**Analysis Batch: 309931**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1,2-Tetrachloroethane	25.0	22.6		ug/L		90	70 - 130
1,1,1-Trichloroethane	25.0	18.7		ug/L		75	70 - 130
1,1,1,2-Tetrachloroethane	25.0	23.7		ug/L		95	70 - 130
1,1,2-Trichloroethane	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloroethane	25.0	19.6		ug/L		78	70 - 130
1,1-Dichloroethane	25.0	20.0		ug/L		80	70 - 130
1,1-Dichloropropene	25.0	20.5		ug/L		82	70 - 130
1,2,3-Trichlorobenzene	25.0	24.0		ug/L		96	70 - 130
1,2,3-Trichloropropane	25.0	24.3		ug/L		97	70 - 130
1,2,4-Trichlorobenzene	25.0	24.6		ug/L		98	70 - 130
1,2,4-Trimethylbenzene	25.0	25.9		ug/L		103	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	23.7		ug/L		95	70 - 130
1,2-Dichlorobenzene	25.0	22.3		ug/L		89	70 - 130
1,2-Dichloroethane	25.0	18.9		ug/L		75	70 - 130

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# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 480-309931/10**

**Matrix: Water**

**Analysis Batch: 309931**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	25.0	20.8		ug/L		83	70 - 130
1,3,5-Trimethylbenzene	25.0	25.1		ug/L		100	70 - 130
1,3-Dichlorobenzene	25.0	22.6		ug/L		91	70 - 130
1,3-Dichloropropane	25.0	22.5		ug/L		90	70 - 130
1,4-Dichlorobenzene	25.0	22.2		ug/L		89	70 - 130
1,4-Dioxane	500	444		ug/L		89	70 - 130
2,2-Dichloropropane	25.0	18.9		ug/L		76	70 - 130
2-Butanone (MEK)	125	117		ug/L		94	70 - 130
2-Chlorotoluene	25.0	25.3		ug/L		101	70 - 130
2-Hexanone	125	185	*	ug/L		148	70 - 130
4-Chlorotoluene	25.0	23.7		ug/L		95	70 - 130
4-Isopropyltoluene	25.0	25.5		ug/L		102	70 - 130
4-Methyl-2-pentanone (MIBK)	125	122		ug/L		98	70 - 130
Acetone	125	115		ug/L		92	70 - 130
Benzene	25.0	19.7		ug/L		79	70 - 130
Bromobenzene	25.0	22.5		ug/L		90	70 - 130
Bromoform	25.0	24.2		ug/L		97	70 - 130
Bromomethane	25.0	19.2		ug/L		77	70 - 130
Carbon disulfide	25.0	21.4		ug/L		86	70 - 130
Carbon tetrachloride	25.0	19.4		ug/L		77	70 - 130
Chlorobenzene	25.0	21.4		ug/L		86	70 - 130
Chlorobromomethane	25.0	18.9		ug/L		76	70 - 130
Chlorodibromomethane	25.0	23.3		ug/L		93	70 - 130
Chloroethane	25.0	20.1		ug/L		80	70 - 130
Chloroform	25.0	18.8		ug/L		75	70 - 130
Chloromethane	25.0	16.8	*	ug/L		67	70 - 130
cis-1,2-Dichloroethene	25.0	19.9		ug/L		80	70 - 130
cis-1,3-Dichloropropene	25.0	22.6		ug/L		90	70 - 130
Dichlorobromomethane	25.0	20.3		ug/L		81	70 - 130
Dichlorodifluoromethane	25.0	15.5	*	ug/L		62	70 - 130
Ethyl ether	25.0	20.8		ug/L		83	70 - 130
Ethylbenzene	25.0	22.7		ug/L		91	70 - 130
Ethylene Dibromide	25.0	22.4		ug/L		90	70 - 130
Hexachlorobutadiene	25.0	23.2		ug/L		93	70 - 130
Isopropyl ether	25.0	23.8		ug/L		95	70 - 130
Isopropylbenzene	25.0	24.3		ug/L		97	70 - 130
Methyl tert-butyl ether	25.0	20.4		ug/L		82	70 - 130
Methylene Chloride	25.0	20.6		ug/L		83	70 - 130
m-Xylene & p-Xylene	25.0	23.1		ug/L		92	70 - 130
Naphthalene	25.0	21.7		ug/L		87	70 - 130
n-Butylbenzene	25.0	25.2		ug/L		101	70 - 130
N-Propylbenzene	25.0	24.1		ug/L		96	70 - 130
o-Xylene	25.0	23.9		ug/L		96	70 - 130
sec-Butylbenzene	25.0	24.5		ug/L		98	70 - 130
Styrene	25.0	24.5		ug/L		98	70 - 130
Tert-amyl methyl ether	25.0	25.5		ug/L		102	70 - 130
Tert-butyl ethyl ether	25.0	23.5		ug/L		94	70 - 130
tert-Butylbenzene	25.0	24.0		ug/L		96	70 - 130

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 480-309931/10**

**Matrix: Water**

**Analysis Batch: 309931**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Tetrachloroethene	25.0	21.6		ug/L		86	70 - 130	
Tetrahydrofuran	50.0	42.8		ug/L		86	70 - 130	
Toluene	25.0	22.1		ug/L		88	70 - 130	
trans-1,2-Dichloroethene	25.0	19.1		ug/L		76	70 - 130	
trans-1,3-Dichloropropene	25.0	24.2		ug/L		97	70 - 130	
Trichloroethene	25.0	20.7		ug/L		83	70 - 130	
Trichlorofluoromethane	25.0	19.6		ug/L		78	70 - 130	
Vinyl chloride	25.0	17.2	*	ug/L		69	70 - 130	
Dibromomethane	25.0	19.8		ug/L		79	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	92		70 - 130
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
4-Bromofluorobenzene (Surr)	94		70 - 130

**Lab Sample ID: LCSD 480-309931/8**

**Matrix: Water**

**Analysis Batch: 309931**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
1,1,1,2-Tetrachloroethane	25.0	23.0		ug/L		92	70 - 130	2	20	
1,1,1-Trichloroethane	25.0	19.8		ug/L		79	70 - 130	6	20	
1,1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		96	70 - 130	1	20	
1,1,1,2-Trichloroethane	25.0	22.5		ug/L		90	70 - 130	0	20	
1,1-Dichloroethane	25.0	20.8		ug/L		83	70 - 130	6	20	
1,1-Dichloroethene	25.0	19.7		ug/L		79	70 - 130	1	20	
1,1-Dichloropropene	25.0	21.6		ug/L		87	70 - 130	6	20	
1,2,3-Trichlorobenzene	25.0	24.5		ug/L		98	70 - 130	2	20	
1,2,3-Trichloropropane	25.0	24.0		ug/L		96	70 - 130	1	20	
1,2,4-Trichlorobenzene	25.0	24.8		ug/L		99	70 - 130	1	20	
1,2,4-Trimethylbenzene	25.0	26.8		ug/L		107	70 - 130	4	20	
1,2-Dibromo-3-Chloropropane	25.0	23.4		ug/L		94	70 - 130	1	20	
1,2-Dichlorobenzene	25.0	22.8		ug/L		91	70 - 130	2	20	
1,2-Dichloroethane	25.0	19.2		ug/L		77	70 - 130	2	20	
1,2-Dichloropropane	25.0	21.3		ug/L		85	70 - 130	2	20	
1,3,5-Trimethylbenzene	25.0	26.0		ug/L		104	70 - 130	3	20	
1,3-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130	3	20	
1,3-Dichloropropane	25.0	22.6		ug/L		91	70 - 130	1	20	
1,4-Dichlorobenzene	25.0	22.4		ug/L		89	70 - 130	1	20	
1,4-Dioxane	500	426		ug/L		85	70 - 130	4	20	
2,2-Dichloropropane	25.0	19.6		ug/L		78	70 - 130	4	20	
2-Butanone (MEK)	125	121		ug/L		97	70 - 130	3	20	
2-Chlorotoluene	25.0	26.3		ug/L		105	70 - 130	4	20	
2-Hexanone	125	185	*	ug/L		148	70 - 130	0	20	
4-Chlorotoluene	25.0	25.1		ug/L		101	70 - 130	6	20	
4-Isopropyltoluene	25.0	26.9		ug/L		107	70 - 130	5	20	
4-Methyl-2-pentanone (MIBK)	125	123		ug/L		98	70 - 130	0	20	
Acetone	125	112		ug/L		90	70 - 130	2	20	

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-309931/8

Matrix: Water

Analysis Batch: 309931

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Benzene	25.0	20.3		ug/L		81	70 - 130	3	20
Bromobenzene	25.0	22.6		ug/L		90	70 - 130	1	20
Bromoform	25.0	24.2		ug/L		97	70 - 130	0	20
Bromomethane	25.0	20.3		ug/L		81	70 - 130	6	20
Carbon disulfide	25.0	22.6		ug/L		91	70 - 130	5	20
Carbon tetrachloride	25.0	20.7		ug/L		83	70 - 130	7	20
Chlorobenzene	25.0	22.2		ug/L		89	70 - 130	4	20
Chlorobromomethane	25.0	19.5		ug/L		78	70 - 130	3	20
Chlorodibromomethane	25.0	23.8		ug/L		95	70 - 130	2	20
Chloroethane	25.0	20.5		ug/L		82	70 - 130	2	20
Chloroform	25.0	19.6		ug/L		78	70 - 130	4	20
Chloromethane	25.0	17.5		ug/L		70	70 - 130	4	20
cis-1,2-Dichloroethene	25.0	20.4		ug/L		82	70 - 130	3	20
cis-1,3-Dichloropropene	25.0	22.9		ug/L		92	70 - 130	1	20
Dichlorobromomethane	25.0	20.9		ug/L		84	70 - 130	3	20
Dichlorodifluoromethane	25.0	16.4 *		ug/L		66	70 - 130	6	20
Ethyl ether	25.0	21.7		ug/L		87	70 - 130	4	20
Ethylbenzene	25.0	23.6		ug/L		94	70 - 130	4	20
Ethylene Dibromide	25.0	22.8		ug/L		91	70 - 130	1	20
Hexachlorobutadiene	25.0	24.4		ug/L		98	70 - 130	5	20
Isopropyl ether	25.0	24.4		ug/L		98	70 - 130	3	20
Isopropylbenzene	25.0	25.8		ug/L		103	70 - 130	6	20
Methyl tert-butyl ether	25.0	21.1		ug/L		84	70 - 130	3	20
Methylene Chloride	25.0	20.7		ug/L		83	70 - 130	0	20
m-Xylene & p-Xylene	25.0	24.2		ug/L		97	70 - 130	4	20
Naphthalene	25.0	22.4		ug/L		90	70 - 130	3	20
n-Butylbenzene	25.0	26.4		ug/L		105	70 - 130	4	20
N-Propylbenzene	25.0	24.9		ug/L		100	70 - 130	3	20
o-Xylene	25.0	24.4		ug/L		98	70 - 130	2	20
sec-Butylbenzene	25.0	25.4		ug/L		101	70 - 130	4	20
Styrene	25.0	25.3		ug/L		101	70 - 130	3	20
Tert-amyl methyl ether	25.0	25.9		ug/L		104	70 - 130	1	20
Tert-butyl ethyl ether	25.0	24.1		ug/L		96	70 - 130	2	20
tert-Butylbenzene	25.0	25.1		ug/L		100	70 - 130	4	20
Tetrachloroethene	25.0	22.5		ug/L		90	70 - 130	4	20
Tetrahydrofuran	50.0	43.2		ug/L		86	70 - 130	1	20
Toluene	25.0	23.1		ug/L		92	70 - 130	5	20
trans-1,2-Dichloroethene	25.0	20.6		ug/L		83	70 - 130	8	20
trans-1,3-Dichloropropene	25.0	24.8		ug/L		99	70 - 130	3	20
Trichloroethene	25.0	21.3		ug/L		85	70 - 130	3	20
Trichlorofluoromethane	25.0	20.6		ug/L		82	70 - 130	5	20
Vinyl chloride	25.0	18.4		ug/L		74	70 - 130	7	20
Dibromomethane	25.0	20.3		ug/L		81	70 - 130	2	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	94		70 - 130
1,2-Dichloroethane-d4 (Surr)	87		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Lab Sample ID: MB 480-309992/8**

**Matrix: Water**

**Analysis Batch: 309992**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			07/07/16 11:17	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/07/16 11:17	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/07/16 11:17	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/07/16 11:17	1
1,1-Dichloroethane	ND		1.0		ug/L			07/07/16 11:17	1
1,1-Dichloroethene	ND		1.0		ug/L			07/07/16 11:17	1
1,1-Dichloropropene	ND		1.0		ug/L			07/07/16 11:17	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/07/16 11:17	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/07/16 11:17	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,2-Dichloroethane	ND		1.0		ug/L			07/07/16 11:17	1
1,2-Dichloropropane	ND		1.0		ug/L			07/07/16 11:17	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,3-Dichloropropane	ND		1.0		ug/L			07/07/16 11:17	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/07/16 11:17	1
1,4-Dioxane	ND		50		ug/L			07/07/16 11:17	1
2,2-Dichloropropane	ND		1.0		ug/L			07/07/16 11:17	1
2-Butanone (MEK)	ND		10		ug/L			07/07/16 11:17	1
2-Chlorotoluene	ND		1.0		ug/L			07/07/16 11:17	1
2-Hexanone	ND		10		ug/L			07/07/16 11:17	1
4-Chlorotoluene	ND		1.0		ug/L			07/07/16 11:17	1
4-Isopropyltoluene	ND		1.0		ug/L			07/07/16 11:17	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/07/16 11:17	1
Acetone	ND		50		ug/L			07/07/16 11:17	1
Benzene	ND		1.0		ug/L			07/07/16 11:17	1
Bromobenzene	ND		1.0		ug/L			07/07/16 11:17	1
Bromoform	ND		1.0		ug/L			07/07/16 11:17	1
Bromomethane	ND		2.0		ug/L			07/07/16 11:17	1
Carbon disulfide	ND		10		ug/L			07/07/16 11:17	1
Carbon tetrachloride	ND		1.0		ug/L			07/07/16 11:17	1
Chlorobenzene	ND		1.0		ug/L			07/07/16 11:17	1
Chlorobromomethane	ND		1.0		ug/L			07/07/16 11:17	1
Chlorodibromomethane	ND		0.50		ug/L			07/07/16 11:17	1
Chloroethane	ND		2.0		ug/L			07/07/16 11:17	1
Chloroform	ND		1.0		ug/L			07/07/16 11:17	1
Chloromethane	ND		2.0		ug/L			07/07/16 11:17	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 11:17	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 11:17	1
Dichlorobromomethane	ND		0.50		ug/L			07/07/16 11:17	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/07/16 11:17	1
Ethyl ether	ND		1.0		ug/L			07/07/16 11:17	1
Ethylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
Ethylene Dibromide	ND		1.0		ug/L			07/07/16 11:17	1
Hexachlorobutadiene	ND		0.40		ug/L			07/07/16 11:17	1
Isopropyl ether	ND		10		ug/L			07/07/16 11:17	1
Isopropylbenzene	ND		1.0		ug/L			07/07/16 11:17	1

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 480-309992/8**

**Matrix: Water**

**Analysis Batch: 309992**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		1.0		ug/L			07/07/16 11:17	1
Methylene Chloride	ND		1.0		ug/L			07/07/16 11:17	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/07/16 11:17	1
Naphthalene	ND		5.0		ug/L			07/07/16 11:17	1
n-Butylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
N-Propylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
o-Xylene	ND		1.0		ug/L			07/07/16 11:17	1
sec-Butylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
Styrene	ND		1.0		ug/L			07/07/16 11:17	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/07/16 11:17	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/07/16 11:17	1
tert-Butylbenzene	ND		1.0		ug/L			07/07/16 11:17	1
Tetrachloroethene	ND		1.0		ug/L			07/07/16 11:17	1
Tetrahydrofuran	ND		10		ug/L			07/07/16 11:17	1
Toluene	ND		1.0		ug/L			07/07/16 11:17	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/07/16 11:17	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/07/16 11:17	1
Trichloroethene	ND		1.0		ug/L			07/07/16 11:17	1
Trichlorofluoromethane	ND		1.0		ug/L			07/07/16 11:17	1
Vinyl chloride	ND		1.0		ug/L			07/07/16 11:17	1
Dibromomethane	ND		1.0		ug/L			07/07/16 11:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	91		70 - 130		07/07/16 11:17	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		07/07/16 11:17	1
4-Bromofluorobenzene (Surr)	89		70 - 130		07/07/16 11:17	1

**Lab Sample ID: LCS 480-309992/5**

**Matrix: Water**

**Analysis Batch: 309992**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.5		ug/L		98	70 - 130
1,1,1-Trichloroethane	25.0	21.5		ug/L		86	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.9		ug/L		96	70 - 130
1,1,2-Trichloroethane	25.0	23.9		ug/L		96	70 - 130
1,1-Dichloroethane	25.0	22.7		ug/L		91	70 - 130
1,1-Dichloroethene	25.0	22.2		ug/L		89	70 - 130
1,1-Dichloropropene	25.0	23.5		ug/L		94	70 - 130
1,2,3-Trichlorobenzene	25.0	24.5		ug/L		98	70 - 130
1,2,3-Trichloropropane	25.0	24.8		ug/L		99	70 - 130
1,2,4-Trichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,2,4-Trimethylbenzene	25.0	27.0		ug/L		108	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	23.0		ug/L		92	70 - 130
1,2-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130
1,2-Dichloroethane	25.0	21.0		ug/L		84	70 - 130
1,2-Dichloropropane	25.0	23.1		ug/L		92	70 - 130
1,3,5-Trimethylbenzene	25.0	25.9		ug/L		104	70 - 130

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 480-309992/5**

**Matrix: Water**

**Analysis Batch: 309992**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,3-Dichloropropane	25.0	24.1		ug/L		96	70 - 130
1,4-Dichlorobenzene	25.0	23.2		ug/L		93	70 - 130
1,4-Dioxane	500	449		ug/L		90	70 - 130
2,2-Dichloropropane	25.0	21.1		ug/L		85	70 - 130
2-Butanone (MEK)	125	127		ug/L		101	70 - 130
2-Chlorotoluene	25.0	27.2		ug/L		109	70 - 130
2-Hexanone	125	192 *		ug/L		154	70 - 130
4-Chlorotoluene	25.0	25.6		ug/L		103	70 - 130
4-Isopropyltoluene	25.0	27.1		ug/L		109	70 - 130
4-Methyl-2-pentanone (MIBK)	125	128		ug/L		102	70 - 130
Acetone	125	122		ug/L		98	70 - 130
Benzene	25.0	22.4		ug/L		90	70 - 130
Bromobenzene	25.0	23.3		ug/L		93	70 - 130
Bromoform	25.0	26.3		ug/L		105	70 - 130
Bromomethane	25.0	22.7		ug/L		91	70 - 130
Carbon disulfide	25.0	16.4 *		ug/L		66	70 - 130
Carbon tetrachloride	25.0	22.7		ug/L		91	70 - 130
Chlorobenzene	25.0	23.8		ug/L		95	70 - 130
Chlorobromomethane	25.0	21.2		ug/L		85	70 - 130
Chlorodibromomethane	25.0	24.8		ug/L		99	70 - 130
Chloroethane	25.0	23.7		ug/L		95	70 - 130
Chloroform	25.0	21.5		ug/L		86	70 - 130
Chloromethane	25.0	20.6		ug/L		82	70 - 130
cis-1,2-Dichloroethene	25.0	22.2		ug/L		89	70 - 130
cis-1,3-Dichloropropene	25.0	24.3		ug/L		97	70 - 130
Dichlorobromomethane	25.0	22.7		ug/L		91	70 - 130
Dichlorodifluoromethane	25.0	20.3		ug/L		81	70 - 130
Ethyl ether	25.0	22.2		ug/L		89	70 - 130
Ethylbenzene	25.0	25.5		ug/L		102	70 - 130
Ethylene Dibromide	25.0	23.6		ug/L		94	70 - 130
Hexachlorobutadiene	25.0	24.5		ug/L		98	70 - 130
Isopropyl ether	25.0	25.6		ug/L		102	70 - 130
Isopropylbenzene	25.0	25.7		ug/L		103	70 - 130
Methyl tert-butyl ether	25.0	21.8		ug/L		87	70 - 130
Methylene Chloride	25.0	23.8		ug/L		95	70 - 130
m-Xylene & p-Xylene	25.0	26.1		ug/L		104	70 - 130
Naphthalene	25.0	21.2		ug/L		85	70 - 130
n-Butylbenzene	25.0	26.9		ug/L		108	70 - 130
N-Propylbenzene	25.0	25.5		ug/L		102	70 - 130
o-Xylene	25.0	26.1		ug/L		105	70 - 130
sec-Butylbenzene	25.0	26.0		ug/L		104	70 - 130
Styrene	25.0	27.2		ug/L		109	70 - 130
Tert-amyl methyl ether	25.0	27.3		ug/L		109	70 - 130
Tert-butyl ethyl ether	25.0	24.8		ug/L		99	70 - 130
tert-Butylbenzene	25.0	25.4		ug/L		101	70 - 130
Tetrachloroethene	25.0	24.7		ug/L		99	70 - 130
Tetrahydrofuran	50.0	47.3		ug/L		95	70 - 130

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 480-309992/5**

**Matrix: Water**

**Analysis Batch: 309992**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	25.0	25.0		ug/L		100	70 - 130
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
trans-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 130
Trichloroethene	25.0	23.4		ug/L		93	70 - 130
Trichlorofluoromethane	25.0	22.9		ug/L		91	70 - 130
Vinyl chloride	25.0	21.3		ug/L		85	70 - 130
Dibromomethane	25.0	21.9		ug/L		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	96		70 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130

**Lab Sample ID: LCSD 480-309992/6**

**Matrix: Water**

**Analysis Batch: 309992**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	25.0	24.0		ug/L		96	70 - 130	2	20
1,1,1-Trichloroethane	25.0	19.6		ug/L		78	70 - 130	9	20
1,1,1,2,2-Tetrachloroethane	25.0	24.5		ug/L		98	70 - 130	3	20
1,1,2-Trichloroethane	25.0	23.3		ug/L		93	70 - 130	3	20
1,1-Dichloroethane	25.0	20.8		ug/L		83	70 - 130	9	20
1,1-Dichloroethene	25.0	19.7		ug/L		79	70 - 130	12	20
1,1-Dichloropropene	25.0	21.4		ug/L		86	70 - 130	9	20
1,2,3-Trichlorobenzene	25.0	24.9		ug/L		99	70 - 130	2	20
1,2,3-Trichloropropane	25.0	25.9		ug/L		103	70 - 130	4	20
1,2,4-Trichlorobenzene	25.0	25.5		ug/L		102	70 - 130	5	20
1,2,4-Trimethylbenzene	25.0	27.0		ug/L		108	70 - 130	0	20
1,2-Dibromo-3-Chloropropane	25.0	23.0		ug/L		92	70 - 130	0	20
1,2-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130	0	20
1,2-Dichloroethane	25.0	19.6		ug/L		78	70 - 130	7	20
1,2-Dichloropropane	25.0	21.5		ug/L		86	70 - 130	7	20
1,3,5-Trimethylbenzene	25.0	26.0		ug/L		104	70 - 130	0	20
1,3-Dichlorobenzene	25.0	23.7		ug/L		95	70 - 130	0	20
1,3-Dichloropropane	25.0	23.5		ug/L		94	70 - 130	2	20
1,4-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130	1	20
1,4-Dioxane	500	463		ug/L		93	70 - 130	3	20
2,2-Dichloropropane	25.0	19.2		ug/L		77	70 - 130	9	20
2-Butanone (MEK)	125	118		ug/L		95	70 - 130	7	20
2-Chlorotoluene	25.0	26.9		ug/L		108	70 - 130	1	20
2-Hexanone	125	190	*	ug/L		152	70 - 130	1	20
4-Chlorotoluene	25.0	25.2		ug/L		101	70 - 130	2	20
4-Isopropyltoluene	25.0	26.8		ug/L		107	70 - 130	1	20
4-Methyl-2-pentanone (MIBK)	125	127		ug/L		101	70 - 130	1	20
Acetone	125	114		ug/L		91	70 - 130	7	20
Benzene	25.0	20.8		ug/L		83	70 - 130	8	20
Bromobenzene	25.0	23.4		ug/L		94	70 - 130	0	20

TestAmerica Buffalo

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-309992/6

Matrix: Water

Analysis Batch: 309992

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Bromoform	25.0	25.5		ug/L		102	70 - 130	3	20
Bromomethane	25.0	20.7		ug/L		83	70 - 130	9	20
Carbon disulfide	25.0	15.2	*	ug/L		61	70 - 130	8	20
Carbon tetrachloride	25.0	20.3		ug/L		81	70 - 130	11	20
Chlorobenzene	25.0	23.0		ug/L		92	70 - 130	4	20
Chlorobromomethane	25.0	19.9		ug/L		80	70 - 130	6	20
Chlorodibromomethane	25.0	24.6		ug/L		98	70 - 130	1	20
Chloroethane	25.0	21.5		ug/L		86	70 - 130	10	20
Chloroform	25.0	19.8		ug/L		79	70 - 130	8	20
Chloromethane	25.0	18.0		ug/L		72	70 - 130	13	20
cis-1,2-Dichloroethene	25.0	20.4		ug/L		82	70 - 130	8	20
cis-1,3-Dichloropropene	25.0	23.7		ug/L		95	70 - 130	2	20
Dichlorobromomethane	25.0	21.3		ug/L		85	70 - 130	6	20
Dichlorodifluoromethane	25.0	16.8	*	ug/L		67	70 - 130	19	20
Ethyl ether	25.0	21.7		ug/L		87	70 - 130	2	20
Ethylbenzene	25.0	24.0		ug/L		96	70 - 130	6	20
Ethylene Dibromide	25.0	23.5		ug/L		94	70 - 130	0	20
Hexachlorobutadiene	25.0	24.3		ug/L		97	70 - 130	1	20
Isopropyl ether	25.0	24.2		ug/L		97	70 - 130	5	20
Isopropylbenzene	25.0	25.5		ug/L		102	70 - 130	1	20
Methyl tert-butyl ether	25.0	21.1		ug/L		84	70 - 130	3	20
Methylene Chloride	25.0	22.1		ug/L		88	70 - 130	7	20
m-Xylene & p-Xylene	25.0	24.6		ug/L		99	70 - 130	6	20
Naphthalene	25.0	22.3		ug/L		89	70 - 130	5	20
n-Butylbenzene	25.0	26.2		ug/L		105	70 - 130	3	20
N-Propylbenzene	25.0	25.1		ug/L		101	70 - 130	2	20
o-Xylene	25.0	25.0		ug/L		100	70 - 130	5	20
sec-Butylbenzene	25.0	25.5		ug/L		102	70 - 130	2	20
Styrene	25.0	26.3		ug/L		105	70 - 130	3	20
Tert-amyl methyl ether	25.0	26.2		ug/L		105	70 - 130	4	20
Tert-butyl ethyl ether	25.0	24.0		ug/L		96	70 - 130	3	20
tert-Butylbenzene	25.0	25.2		ug/L		101	70 - 130	0	20
Tetrachloroethene	25.0	22.9		ug/L		91	70 - 130	8	20
Tetrahydrofuran	50.0	43.5		ug/L		87	70 - 130	8	20
Toluene	25.0	23.5		ug/L		94	70 - 130	6	20
trans-1,2-Dichloroethene	25.0	20.7		ug/L		83	70 - 130	9	20
trans-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 130	1	20
Trichloroethene	25.0	21.9		ug/L		87	70 - 130	7	20
Trichlorofluoromethane	25.0	20.7		ug/L		83	70 - 130	10	20
Vinyl chloride	25.0	19.1		ug/L		76	70 - 130	11	20
Dibromomethane	25.0	20.8		ug/L		83	70 - 130	5	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	95		70 - 130
1,2-Dichloroethane-d4 (Surr)	85		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130

TestAmerica Buffalo



# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-309926/1-A  
 Matrix: Water  
 Analysis Batch: 310221

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 309926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		07/07/16 08:55	07/07/16 18:22	1

Lab Sample ID: LCS 480-309926/2-A  
 Matrix: Water  
 Analysis Batch: 310221

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 309926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.2		mg/L		102	80 - 120

Lab Sample ID: LCSD 480-309926/3-A  
 Matrix: Water  
 Analysis Batch: 310221

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 309926

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Iron	10.0	10.2		mg/L		102	80 - 120	0 20

Lab Sample ID: 480-102619-1 MS  
 Matrix: Water  
 Analysis Batch: 310221

Client Sample ID: MW-267S-20160705  
 Prep Type: Total/NA  
 Prep Batch: 309926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	340		10.0	329	4	mg/L		-82	75 - 125

Lab Sample ID: 480-102619-1 MSD  
 Matrix: Water  
 Analysis Batch: 310221

Client Sample ID: MW-267S-20160705  
 Prep Type: Total/NA  
 Prep Batch: 309926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Iron	340		10.0	336	4	mg/L		-10	75 - 125	2 20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-310031/4  
 Matrix: Water  
 Analysis Batch: 310031

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			07/07/16 11:33	1
Sulfate	ND		2.0		mg/L			07/07/16 11:33	1

Lab Sample ID: LCS 480-310031/3  
 Matrix: Water  
 Analysis Batch: 310031

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.0		mg/L		102	90 - 110
Sulfate	50.0	50.1		mg/L		100	90 - 110

# QC Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-310196/4  
 Matrix: Water  
 Analysis Batch: 310196

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			07/08/16 10:24	1
Sulfate	ND		2.0		mg/L			07/08/16 10:24	1

Lab Sample ID: LCS 480-310196/3  
 Matrix: Water  
 Analysis Batch: 310196

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.9		mg/L		98	90 - 110
Sulfate	50.0	50.1		mg/L		100	90 - 110

Lab Sample ID: 480-102619-6 MS  
 Matrix: Water  
 Analysis Batch: 310196

Client Sample ID: MW-563-20160705  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	ND		25.0	28.2		mg/L		113	80 - 120

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-310158/2-A  
 Matrix: Water  
 Analysis Batch: 310327

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 310158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20		mg/L		07/07/16 20:47	07/08/16 17:07	1

Lab Sample ID: LCS 480-310158/1-A  
 Matrix: Water  
 Analysis Batch: 310327

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 310158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.05		mg/L		105	90 - 110

Lab Sample ID: 480-102619-1 MS  
 Matrix: Water  
 Analysis Batch: 310327

Client Sample ID: MW-267S-20160705  
 Prep Type: Total/NA  
 Prep Batch: 310158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.40	F1	0.500	0.999	F1	mg/L		120	90 - 110

## Method: 9040C - pH

Lab Sample ID: 480-102619-3 DU  
 Matrix: Water  
 Analysis Batch: 310078

Client Sample ID: MW-268S-20160705  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.06	HF	7.150		SU		1	5

TestAmerica Buffalo

QC Sample Results

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-310276/27  
 Matrix: Water  
 Analysis Batch: 310276

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.0		mg/L			07/08/16 02:33	1
TOC Result 2	ND		1.0		mg/L			07/08/16 02:33	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/08/16 02:33	1

Lab Sample ID: LCS 480-310276/28  
 Matrix: Water  
 Analysis Batch: 310276

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	60.0	57.8		mg/L		96	90 - 110
TOC Result 2	60.0	59.1		mg/L		99	90 - 110
Total Organic Carbon - Duplicates	60.0	58.4		mg/L		97	90 - 110

Lab Sample ID: 480-102619-3 MS  
 Matrix: Water  
 Analysis Batch: 310276

Client Sample ID: MW-268S-20160705  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	ND		20.0	19.5		mg/L		98	54 - 131
TOC Result 2	ND		20.0	19.9		mg/L		100	54 - 131
Total Organic Carbon - Duplicates	ND		20.0	19.7		mg/L		99	54 - 131

Lab Sample ID: 480-102619-6 MS  
 Matrix: Water  
 Analysis Batch: 310276

Client Sample ID: MW-563-20160705  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	1.6		20.0	21.2		mg/L		98	54 - 131
TOC Result 2	1.7		20.0	21.7		mg/L		100	54 - 131
Total Organic Carbon - Duplicates	1.6		20.0	21.5		mg/L		99	54 - 131

Lab Sample ID: 480-102619-2 DU  
 Matrix: Water  
 Analysis Batch: 310276

Client Sample ID: MW-267M-20160705  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
TOC Result 1	8.1		8.52		mg/L		4	20
TOC Result 2	8.1		8.13		mg/L		0.9	20
Total Organic Carbon - Duplicates	8.1		8.33		mg/L		3	20

Lab Sample ID: 480-102619-4 DU  
 Matrix: Water  
 Analysis Batch: 310276

Client Sample ID: MW-268M-20160705  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
TOC Result 1	8.1		80.6		mg/L		0.2	20

TestAmerica Buffalo



QC Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

Lab Sample ID: LCS 480-309990/8
Matrix: Water
Analysis Batch: 309990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Table with 9 columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec. Limits. Row: Alkalinity, Total, 100, 96.6, mg/L, 97, 90 - 110

Method: SM 4500 P E - Orthophosphate

Lab Sample ID: MB 480-309911/3
Matrix: Water
Analysis Batch: 309911

Client Sample ID: Method Blank
Prep Type: Total/NA

Table with 10 columns: Analyte, MB Result, MB Qualifier, RL, MDL, Unit, D, Prepared, Analyzed, Dil Fac. Row: ortho-Phosphate, ND, 0.020, mg/L, 07/06/16 11:33, 1

Lab Sample ID: LCS 480-309911/4
Matrix: Water
Analysis Batch: 309911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Table with 9 columns: Analyte, Spike Added, LCS Result, LCS Qualifier, Unit, D, %Rec, %Rec. Limits. Row: ortho-Phosphate, 0.200, 0.202, mg/L, 101, 90 - 110

Lab Sample ID: 480-102619-1 MS
Matrix: Water
Analysis Batch: 309911

Client Sample ID: MW-267S-20160705
Prep Type: Total/NA

Table with 10 columns: Analyte, Sample Result, Sample Qualifier, Spike Added, MS Result, MS Qualifier, Unit, D, %Rec, %Rec. Limits. Row: ortho-Phosphate, 0.43, 1.00, 1.32, mg/L, 89, 49 - 138

Lab Sample ID: 480-102619-1 MSD
Matrix: Water
Analysis Batch: 309911

Client Sample ID: MW-267S-20160705
Prep Type: Total/NA

Table with 12 columns: Analyte, Sample Result, Sample Qualifier, Spike Added, MSD Result, MSD Qualifier, Unit, D, %Rec, %Rec. Limits, RPD, RPD Limit. Row: ortho-Phosphate, 0.43, 1.00, 1.34, mg/L, 91, 49 - 138, 2, 20

Lab Sample ID: 480-102619-2 MS
Matrix: Water
Analysis Batch: 309911

Client Sample ID: MW-267M-20160705
Prep Type: Total/NA

Table with 10 columns: Analyte, Sample Result, Sample Qualifier, Spike Added, MS Result, MS Qualifier, Unit, D, %Rec, %Rec. Limits. Row: ortho-Phosphate, 0.12, 1.00, 1.04, mg/L, 92, 49 - 138

Lab Sample ID: 480-102619-2 MSD
Matrix: Water
Analysis Batch: 309911

Client Sample ID: MW-267M-20160705
Prep Type: Total/NA

Table with 12 columns: Analyte, Sample Result, Sample Qualifier, Spike Added, MSD Result, MSD Qualifier, Unit, D, %Rec, %Rec. Limits, RPD, RPD Limit. Row: ortho-Phosphate, 0.12, 1.00, 1.03, mg/L, 91, 49 - 138, 1, 20



# QC Association Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

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## General Chemistry

### Analysis Batch: 309911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-102619-1	MW-267S-20160705	Total/NA	Water	SM 4500 P E	
480-102619-1 MS	MW-267S-20160705	Total/NA	Water	SM 4500 P E	
480-102619-1 MSD	MW-267S-20160705	Total/NA	Water	SM 4500 P E	
480-102619-2	MW-267M-20160705	Total/NA	Water	SM 4500 P E	
480-102619-2 MS	MW-267M-20160705	Total/NA	Water	SM 4500 P E	
480-102619-2 MSD	MW-267M-20160705	Total/NA	Water	SM 4500 P E	
480-102619-3	MW-268S-20160705	Total/NA	Water	SM 4500 P E	
480-102619-4	MW-268M-20160705	Total/NA	Water	SM 4500 P E	
480-102619-5	MW-561-20160705	Total/NA	Water	SM 4500 P E	
480-102619-6	MW-563-20160705	Total/NA	Water	SM 4500 P E	
LCS 480-309911/4	Lab Control Sample	Total/NA	Water	SM 4500 P E	
MB 480-309911/3	Method Blank	Total/NA	Water	SM 4500 P E	

### Analysis Batch: 309953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-102619-1	MW-267S-20160705	Total/NA	Water	353.2	
480-102619-2	MW-267M-20160705	Total/NA	Water	353.2	
480-102619-3	MW-268S-20160705	Total/NA	Water	353.2	
480-102619-4	MW-268M-20160705	Total/NA	Water	353.2	
480-102619-5	MW-561-20160705	Total/NA	Water	353.2	
480-102619-6	MW-563-20160705	Total/NA	Water	353.2	

### Analysis Batch: 309990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-102619-1	MW-267S-20160705	Total/NA	Water	SM 2320B	
480-102619-2	MW-267M-20160705	Total/NA	Water	SM 2320B	
480-102619-3	MW-268S-20160705	Total/NA	Water	SM 2320B	
480-102619-4	MW-268M-20160705	Total/NA	Water	SM 2320B	
480-102619-5	MW-561-20160705	Total/NA	Water	SM 2320B	
480-102619-6	MW-563-20160705	Total/NA	Water	SM 2320B	
LCS 480-309990/8	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-309990/7	Method Blank	Total/NA	Water	SM 2320B	

### Analysis Batch: 310031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-102619-1	MW-267S-20160705	Total/NA	Water	300.0	
480-102619-2	MW-267M-20160705	Total/NA	Water	300.0	
480-102619-3	MW-268S-20160705	Total/NA	Water	300.0	
480-102619-5	MW-561-20160705	Total/NA	Water	300.0	
480-102619-6	MW-563-20160705	Total/NA	Water	300.0	
LCS 480-310031/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-310031/4	Method Blank	Total/NA	Water	300.0	

### Analysis Batch: 310078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-102619-1	MW-267S-20160705	Total/NA	Water	9040C	
480-102619-2	MW-267M-20160705	Total/NA	Water	9040C	
480-102619-3	MW-268S-20160705	Total/NA	Water	9040C	
480-102619-3 DU	MW-268S-20160705	Total/NA	Water	9040C	
480-102619-4	MW-268M-20160705	Total/NA	Water	9040C	
480-102619-5	MW-561-20160705	Total/NA	Water	9040C	

TestAmerica Buffalo





# QC Association Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## General Chemistry (Continued)

### Analysis Batch: 310699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-102619-5	MW-561-20160705	Total/NA	Water	9060A	
LCS 480-310699/28	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-310699/4	Lab Control Sample	Total/NA	Water	9060A	
MB 480-310699/27	Method Blank	Total/NA	Water	9060A	
MB 480-310699/3	Method Blank	Total/NA	Water	9060A	

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# Lab Chronicle

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-267S-20160705**

**Lab Sample ID: 480-102619-1**

**Date Collected: 07/05/16 10:50**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	309931	07/07/16 01:33	GTG	TAL BUF
Total/NA	Prep	3005A			309926	07/07/16 08:55	BAE	TAL BUF
Total/NA	Analysis	6010		1	310221	07/07/16 18:43	AMH	TAL BUF
Total/NA	Analysis	300.0		10	310031	07/07/16 12:22	CAV	TAL BUF
Total/NA	Prep	Distill/Ammonia			310158	07/07/16 20:47	CEA	TAL BUF
Total/NA	Analysis	350.1		1	310327	07/08/16 17:18	CEA	TAL BUF
Total/NA	Analysis	353.2		1	309953	07/06/16 16:23	CLT	TAL BUF
Total/NA	Analysis	9040C		1	310078	07/07/16 11:12	ELR	TAL BUF
Total/NA	Analysis	9060A		50	310276	07/08/16 04:59	DLG	TAL BUF
Total/NA	Analysis	SM 2320B		1	309990	07/06/16 17:59	EKB	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	309911	07/06/16 11:33	ELR	TAL BUF

**Client Sample ID: MW-267M-20160705**

**Lab Sample ID: 480-102619-2**

**Date Collected: 07/05/16 11:30**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309931	07/07/16 01:58	GTG	TAL BUF
Total/NA	Prep	3005A			309926	07/07/16 08:55	BAE	TAL BUF
Total/NA	Analysis	6010		1	310221	07/07/16 19:02	AMH	TAL BUF
Total/NA	Analysis	300.0		1	310196	07/08/16 13:37	CAV	TAL BUF
Total/NA	Analysis	300.0		5	310031	07/07/16 12:30	CAV	TAL BUF
Total/NA	Prep	Distill/Ammonia			310158	07/07/16 20:47	CEA	TAL BUF
Total/NA	Analysis	350.1		1	310327	07/08/16 17:20	CEA	TAL BUF
Total/NA	Analysis	353.2		1	309953	07/06/16 16:24	CLT	TAL BUF
Total/NA	Analysis	9040C		1	310078	07/07/16 11:15	ELR	TAL BUF
Total/NA	Analysis	9060A		1	310276	07/08/16 05:28	DLG	TAL BUF
Total/NA	Analysis	SM 2320B		1	309990	07/06/16 18:06	EKB	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	309911	07/06/16 11:33	ELR	TAL BUF

**Client Sample ID: MW-268S-20160705**

**Lab Sample ID: 480-102619-3**

**Date Collected: 07/05/16 09:15**

**Matrix: Water**

**Date Received: 07/06/16 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	309931	07/07/16 02:23	GTG	TAL BUF
Total/NA	Prep	3005A			309926	07/07/16 08:55	BAE	TAL BUF
Total/NA	Analysis	6010		1	310221	07/07/16 19:05	AMH	TAL BUF
Total/NA	Analysis	300.0		1	310031	07/07/16 12:39	CAV	TAL BUF
Total/NA	Prep	Distill/Ammonia			310158	07/07/16 20:47	CEA	TAL BUF
Total/NA	Analysis	350.1		1	310327	07/08/16 17:20	CEA	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-268S-20160705**

**Lab Sample ID: 480-102619-3**

Date Collected: 07/05/16 09:15

Matrix: Water

Date Received: 07/06/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	353.2		1	309953	07/06/16 16:25	CLT	TAL BUF
Total/NA	Analysis	9040C		1	310078	07/07/16 11:18	ELR	TAL BUF
Total/NA	Analysis	9060A		1	310276	07/08/16 06:27	DLG	TAL BUF
Total/NA	Analysis	SM 2320B		1	309990	07/06/16 18:12	EKB	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	309911	07/06/16 11:33	ELR	TAL BUF

**Client Sample ID: MW-268M-20160705**

**Lab Sample ID: 480-102619-4**

Date Collected: 07/05/16 09:55

Matrix: Water

Date Received: 07/06/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309992	07/07/16 12:31	RRS	TAL BUF
Total/NA	Prep	3005A			309926	07/07/16 08:55	BAE	TAL BUF
Total/NA	Analysis	6010		1	310221	07/07/16 19:09	AMH	TAL BUF
Total/NA	Analysis	300.0		2	310196	07/08/16 13:52	CAV	TAL BUF
Total/NA	Prep	Distill/Ammonia			310158	07/07/16 20:47	CEA	TAL BUF
Total/NA	Analysis	350.1		1	310327	07/08/16 17:21	CEA	TAL BUF
Total/NA	Analysis	353.2		1	309953	07/06/16 16:26	CLT	TAL BUF
Total/NA	Analysis	9040C		1	310078	07/07/16 11:23	ELR	TAL BUF
Total/NA	Analysis	9060A		2	310276	07/08/16 08:20	DLG	TAL BUF
Total/NA	Analysis	SM 2320B		1	309990	07/06/16 18:18	EKB	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	309911	07/06/16 11:33	ELR	TAL BUF

**Client Sample ID: MW-561-20160705**

**Lab Sample ID: 480-102619-5**

Date Collected: 07/05/16 12:10

Matrix: Water

Date Received: 07/06/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309992	07/07/16 12:56	RRS	TAL BUF
Total/NA	Prep	3005A			309926	07/07/16 08:55	BAE	TAL BUF
Total/NA	Analysis	6010		1	310221	07/07/16 19:23	AMH	TAL BUF
Total/NA	Analysis	300.0		1	310196	07/08/16 14:06	CAV	TAL BUF
Total/NA	Analysis	300.0		10	310031	07/07/16 13:58	CAV	TAL BUF
Total/NA	Prep	Distill/Ammonia			310158	07/07/16 20:47	CEA	TAL BUF
Total/NA	Analysis	350.1		2	310327	07/08/16 17:44	CEA	TAL BUF
Total/NA	Analysis	353.2		1	309953	07/06/16 16:28	CLT	TAL BUF
Total/NA	Analysis	9040C		1	310078	07/07/16 11:26	ELR	TAL BUF
Total/NA	Analysis	9060A		1	310699	07/11/16 15:27	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	309990	07/06/16 18:27	EKB	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	309911	07/06/16 11:33	ELR	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

**Client Sample ID: MW-563-20160705**

**Lab Sample ID: 480-102619-6**

Date Collected: 07/05/16 12:55

Matrix: Water

Date Received: 07/06/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309931	07/07/16 03:38	GTG	TAL BUF
Total/NA	Prep	3005A			309926	07/07/16 08:55	BAE	TAL BUF
Total/NA	Analysis	6010		1	310221	07/07/16 19:27	AMH	TAL BUF
Total/NA	Analysis	300.0		1	310196	07/08/16 14:21	CAV	TAL BUF
Total/NA	Analysis	300.0		5	310031	07/07/16 14:07	CAV	TAL BUF
Total/NA	Prep	Distill/Ammonia			310158	07/07/16 20:47	CEA	TAL BUF
Total/NA	Analysis	350.1		1	310327	07/08/16 17:23	CEA	TAL BUF
Total/NA	Analysis	353.2		1	309953	07/06/16 16:29	CLT	TAL BUF
Total/NA	Analysis	9040C		1	310078	07/07/16 11:29	ELR	TAL BUF
Total/NA	Analysis	9060A		1	310276	07/08/16 09:47	DLG	TAL BUF
Total/NA	Analysis	SM 2320B		1	309990	07/06/16 18:33	EKB	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	309911	07/06/16 11:33	ELR	TAL BUF

**Client Sample ID: DUP1-20160705**

**Lab Sample ID: 480-102619-7**

Date Collected: 07/05/16 00:00

Matrix: Water

Date Received: 07/06/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309992	07/07/16 13:21	RRS	TAL BUF

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-102619-8**

Date Collected: 07/05/16 00:00

Matrix: Water

Date Received: 07/06/16 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309931	07/07/16 04:28	GTG	TAL BUF

**Laboratory References:**

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Certification Summary

Client: Innovative Engineering Solutions, Inc  
 Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

## Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-17
California	State Program	9	1169CA	09-30-17
Connecticut	State Program	1	PH-0568	09-30-16
Florida	NELAP	4	E87672	06-30-16 *
Georgia	State Program	4	N/A	03-31-17
Georgia	State Program	4	956	03-31-17
Illinois	NELAP	5	200003	09-30-16
Iowa	State Program	7	374	03-01-17
Kentucky (DW)	State Program	4	90029	12-31-16
Kentucky (UST)	State Program	4	30	03-31-17
Kentucky (WW)	State Program	4	90029	12-31-16
Louisiana	NELAP	6	02031	06-30-17
Maine	State Program	1	NY00044	12-04-16
Maryland	State Program	3	294	03-31-17
Massachusetts	State Program	1	M-NY044	06-30-17
Michigan	State Program	5	9937	03-31-16 *
Minnesota	NELAP	5	036-999-337	12-31-16
New Hampshire	NELAP Primary AB	1	2973	09-11-16
New Hampshire	NELAP Secondary AB	1	2337	11-17-16
New Jersey	NELAP	2	NY455	06-30-17
New York	NELAP	2	10026	03-31-17
North Dakota	State Program	8	R-176	03-31-17
Oklahoma	State Program	6	9421	08-31-16
Oregon	NELAP	10	NY200003	06-09-17
Pennsylvania	NELAP	3	68-00281	07-31-16 *
Rhode Island	State Program	1	LAO00328	12-30-16
Tennessee	State Program	4	TN02970	03-31-17
Texas	NELAP	6	T104704412-15-6	07-31-16 *
USDA	Federal		P330-11-00386	11-26-17
Virginia	NELAP	3	460185	09-14-16
Washington	State Program	10	C784	02-10-17
West Virginia DEP	State Program	3	252	09-30-16
Wisconsin	State Program	5	998310390	08-31-16

\* Certification renewal pending - certification considered valid.

# Method Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	MA DEP	TAL BUF
6010	Metals (ICP)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
9040C	pH	SW846	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 4500 P E	Orthophosphate	SM	TAL BUF

#### Protocol References:

EPA = US Environmental Protection Agency

MA DEP = Massachusetts Department Of Environmental Protection

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Sample Summary

Client: Innovative Engineering Solutions, Inc  
Project/Site: IDS Wayland

TestAmerica Job ID: 480-102619-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-102619-1	MW-267S-20160705	Water	07/05/16 10:50	07/06/16 09:45
480-102619-2	MW-267M-20160705	Water	07/05/16 11:30	07/06/16 09:45
480-102619-3	MW-268S-20160705	Water	07/05/16 09:15	07/06/16 09:45
480-102619-4	MW-268M-20160705	Water	07/05/16 09:55	07/06/16 09:45
480-102619-5	MW-561-20160705	Water	07/05/16 12:10	07/06/16 09:45
480-102619-6	MW-563-20160705	Water	07/05/16 12:55	07/06/16 09:45
480-102619-7	DUP1-20160705	Water	07/05/16 00:00	07/06/16 09:45
480-102619-8	TRIP BLANK	Water	07/05/16 00:00	07/06/16 09:45



## Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 480-102619-1

**Login Number: 102619**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**Creator: Williams, Christopher S**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	IES
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	







## ANALYTICAL REPORT

Lab Number:	L1620742
Client:	Innovative Engineering Solutions, Inc. 25 Spring Street Walpole, MA 02081
ATTN:	Vicki Pariyar
Phone:	(508) 668-0033
Project Name:	RAYTHEON WAYLAND
Project Number:	RA-008
Report Date:	07/14/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1620742-01	MW-265M-20160706	WATER	WAYLAND, MA	07/06/16 11:35	07/06/16
L1620742-02	MW-267S-20160705	WATER	WAYLAND, MA	07/05/16 10:50	07/06/16
L1620742-03	MW-267M-20160705	WATER	WAYLAND, MA	07/05/16 11:30	07/06/16
L1620742-04	MW-268S-20160705	WATER	WAYLAND, MA	07/05/16 09:15	07/06/16
L1620742-05	MW-268M-20160705	WATER	WAYLAND, MA	07/05/16 09:55	07/06/16
L1620742-06	MW-561-20160705	WATER	WAYLAND, MA	07/05/16 12:10	07/06/16
L1620742-07	MW-562-20160706	WATER	WAYLAND, MA	07/06/16 10:55	07/06/16
L1620742-08	MW-563-20160705	WATER	WAYLAND, MA	07/05/16 12:55	07/06/16
L1620742-09	REW-7-20160706	WATER	WAYLAND, MA	07/06/16 09:30	07/06/16
L1620742-10	REW-8-20160706	WATER	WAYLAND, MA	07/06/16 08:40	07/06/16
L1620742-11	REW-11-20160706	WATER	WAYLAND, MA	07/06/16 10:15	07/06/16
L1620742-12	REW-12-20160706	WATER	WAYLAND, MA	07/06/16 08:05	07/06/16

Project Name: RAYTHEON WAYLAND

Lab Number: L1620742

Project Number: RA-008

Report Date: 07/14/16

**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.**

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

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



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

### Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. 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. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. 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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

---

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

### Case Narrative (continued)

#### Dissolved Gases

L1620742-01, -02, -03, -05, -06, -07, -08, -09, -10, -11 and -12.: The samples were re-analyzed on dilution in order to quantify the results within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compound that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

L1620742-01, -02, -03, -06, -07, -08 and -10 were collected in pre-preserved vials; however, the pH of the samples was determined to be greater than two.

The WG911525-5 MS recovery, performed on L1620742-04, is outside the acceptance criteria for methane (73%). The unacceptable percent recovery is attributed to the elevated concentrations of target compounds present in the native sample.

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:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 07/14/16

# ORGANICS

# VOLATILES



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-01  
 Client ID: MW-265M-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 11:55  
 Analyst: LB

Date Collected: 07/06/16 11:35  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	15300	E	ug/l	0.500	--	1	A
Ethene	0.961		ug/l	0.500	--	1	A
Ethane	1.07		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-01 D  
 Client ID: MW-265M-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 11:06  
 Analyst: LB

Date Collected: 07/06/16 11:35  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	15400		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-02  
 Client ID: MW-267S-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 12:10  
 Analyst: LB

Date Collected: 07/05/16 10:50  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	21200	E	ug/l	0.500	--	1	A
Ethene	2.87		ug/l	0.500	--	1	A
Ethane	ND		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-02 D  
 Client ID: MW-267S-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 11:20  
 Analyst: LB

Date Collected: 07/05/16 10:50  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	15700		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-03  
 Client ID: MW-267M-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 12:25  
 Analyst: LB

Date Collected: 07/05/16 11:30  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	30900	E	ug/l	0.500	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	18.1		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-03 D  
 Client ID: MW-267M-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 11:35  
 Analyst: LB

Date Collected: 07/05/16 11:30  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	29100		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-04  
 Client ID: MW-268S-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 12:39  
 Analyst: LB

Date Collected: 07/05/16 09:15  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	1200		ug/l	0.500	--	1	A
Ethene	2.30		ug/l	0.500	--	1	A
Ethane	ND		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-05  
 Client ID: MW-268M-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 12:54  
 Analyst: LB

Date Collected: 07/05/16 09:55  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	34000	E	ug/l	0.500	--	1	A
Ethene	10.3		ug/l	0.500	--	1	A
Ethane	48.8		ug/l	0.500	--	1	A



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-05 D  
 Client ID: MW-268M-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 14:18  
 Analyst: LB

Date Collected: 07/05/16 09:55  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	27300		ug/l	5.00	--	10	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-06  
 Client ID: MW-561-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 13:08  
 Analyst: LB

Date Collected: 07/05/16 12:10  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	20500	E	ug/l	0.500	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	24.3		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L1620742**Project Number:** RA-008**Report Date:** 07/14/16**SAMPLE RESULTS**

Lab ID: L1620742-06 D

Date Collected: 07/05/16 12:10

Client ID: MW-561-20160705

Date Received: 07/06/16

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Matrix: Water

Analytical Method: 117,-

Analytical Date: 07/11/16 11:49

Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	17600		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-07  
 Client ID: MW-562-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 13:23  
 Analyst: LB

Date Collected: 07/06/16 10:55  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	20000	E	ug/l	0.500	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	1.78		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L1620742**Project Number:** RA-008**Report Date:** 07/14/16**SAMPLE RESULTS**

Lab ID: L1620742-07 D

Date Collected: 07/06/16 10:55

Client ID: MW-562-20160706

Date Received: 07/06/16

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Matrix: Water

Analytical Method: 117,-

Analytical Date: 07/11/16 12:04

Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	17400		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-08  
 Client ID: MW-563-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 13:37  
 Analyst: LB

Date Collected: 07/05/16 12:55  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	19600	E	ug/l	0.500	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	4.49		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-08 D  
 Client ID: MW-563-20160705  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 12:18  
 Analyst: LB

Date Collected: 07/05/16 12:55  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	17300		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-09  
 Client ID: REW-7-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 13:52  
 Analyst: LB

Date Collected: 07/06/16 09:30  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	19600	E	ug/l	0.500	--	1	A
Ethene	7.90		ug/l	0.500	--	1	A
Ethane	9.94		ug/l	0.500	--	1	A



**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-09 D  
 Client ID: REW-7-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 12:33  
 Analyst: LB

Date Collected: 07/06/16 09:30  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	17500		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-10  
 Client ID: REW-8-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 14:06  
 Analyst: LB

Date Collected: 07/06/16 08:40  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	21900	E	ug/l	0.500	--	1	A
Ethene	2.72		ug/l	0.500	--	1	A
Ethane	8.09		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-10 D  
 Client ID: REW-8-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 12:47  
 Analyst: LB

Date Collected: 07/06/16 08:40  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	19000		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-11  
 Client ID: REW-11-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 15:20  
 Analyst: LB

Date Collected: 07/06/16 10:15  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	21900	E	ug/l	0.500	--	1	A
Ethene	6.83		ug/l	0.500	--	1	A
Ethane	7.47		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-11 D  
 Client ID: REW-11-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 13:02  
 Analyst: LB

Date Collected: 07/06/16 10:15  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	20400		ug/l	2.50	--	5	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-12  
 Client ID: REW-12-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/08/16 15:34  
 Analyst: LB

Date Collected: 07/06/16 08:05  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	27800	E	ug/l	0.500	--	1	A
Ethene	11.7		ug/l	0.500	--	1	A
Ethane	11.3		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

**SAMPLE RESULTS**

Lab ID: L1620742-12 D  
 Client ID: REW-12-20160706  
 Sample Location: WAYLAND, MA  
 Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/11/16 13:16  
 Analyst: LB

Date Collected: 07/06/16 08:05  
 Date Received: 07/06/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	22200		ug/l	2.50	--	5	A

Project Name: RAYTHEON WAYLAND

Lab Number: L1620742

Project Number: RA-008

Report Date: 07/14/16

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

Analytical Method: 117,-  
 Analytical Date: 07/08/16 11:12  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases by GC - Mansfield Lab for sample(s): 01-12 Batch: WG911525-3					
Methane	ND		ug/l	0.500	-- A
Ethene	ND		ug/l	0.500	-- A
Ethane	ND		ug/l	0.500	-- A



Project Name: RAYTHEON WAYLAND

Lab Number: L1620742

Project Number: RA-008

Report Date: 07/14/16

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

Analytical Method: 117,-  
 Analytical Date: 07/11/16 10:16  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases by GC - Mansfield Lab for sample(s): 01-03,05-12 Batch: WG911525-9					
Methane	ND		ug/l	0.500	-- A
Ethene	ND		ug/l	0.500	-- A
Ethane	ND		ug/l	0.500	-- A

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** RAYTHEON WAYLAND

**Project Number:** RA-008

**Lab Number:** L1620742

**Report Date:** 07/14/16

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>	<b>Column</b>
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-12 Batch: WG911525-2									
Methane	103		-		80-120	-		25	A
Ethene	104		-		80-120	-		25	A
Ethane	107		-		80-120	-		25	A

### Matrix Spike Analysis Batch Quality Control

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>MS Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>MSD Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>RPD Qual</i>	<i>RPD Limits</i>	<i>Column</i>
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG911525-5 QC Sample: L1620742-04 Client ID: MW-268S-20160705													
Methane	1200	54.6	1240	73	Q	-	-		80-120	-		25	A
Ethene	2.30	95.5	111	114		-	-		80-120	-		25	A
Ethane	ND	102	118	115		-	-		80-120	-		25	A

## Lab Duplicate Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Project Number: RA-008

Lab Number: L1620742

Report Date: 07/14/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG911525-4 QC Sample: L1620742-04 Client ID: MW-268S-20160705						
Methane	1200	1200	ug/l	0		25 A
Ethene	2.30	2.23	ug/l	3		25 A
Ethane	ND	ND	ug/l	NC		25 A

Project Name: RAYTHEON WAYLAND

Lab Number: L1620742

Project Number: RA-008

Report Date: 07/14/16

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

A Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1620742-01A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-01B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-02A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-02B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-03A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-03B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-04A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-04B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-05A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-05B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-06A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-06B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-07A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-07B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-08A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-08B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-09A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-09B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-10A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-10B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-11A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-11B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-12A	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)
L1620742-12B	20ml Vial HCl preserved	A	N/A	2.1	Y	Absent	DISSGAS(14)

\*Values in parentheses indicate holding time in days

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
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.
LFB	- Laboratory Fortified Blank: 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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

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

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report



**Project Name:** RAYTHEON WAYLAND**Lab Number:** L1620742**Project Number:** RA-008**Report Date:** 07/14/16**Data Qualifiers**

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
  - D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
  - E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
  - G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
  - H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
  - I** - The lower value for the two columns has been reported due to obvious interference.
  - M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
  - NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
  - P** - The RPD between the results for the two columns exceeds the method-specified criteria.
  - Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
  - R** - Analytical results are from sample re-analysis.
  - RE** - Analytical results are from sample re-extraction.
  - S** - Analytical results are from modified screening analysis.
  - J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
  - ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** RAYTHEON WAYLAND  
**Project Number:** RA-008

**Lab Number:** L1620742  
**Report Date:** 07/14/16

## REFERENCES

- 117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, 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 Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

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





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## Certification Information

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 524.2:** 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

**EPA 624:** 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

**EPA 625:** Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

**EPA 1010A:** NPW: Ignitability

**EPA 6010C:** NPW: Strontium; SCM: Strontium

**EPA 8151A:** NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**EPA 9010:** NPW: Amenable Cyanide Distillation, Total Cyanide Distillation

**EPA 9038:** NPW: Sulfate

**EPA 9050A:** NPW: Specific Conductance

**EPA 9056:** NPW: Chloride, Nitrate, Sulfate

**EPA 9065:** NPW: Phenols

**EPA 9251:** NPW: Chloride

**SM3500:** NPW: Ferrous Iron

**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**EPA 8270D:** NPW: Biphenyl; SCM: Biphenyl, Caprolactam

**EPA 8270D-SIM Isotope Dilution:** SCM: 1,4-Dioxane

**SM 2540D:** TSS

**SM2540G:** SCM: Percent Solids

**EPA 1631E:** SCM: Mercury

**EPA 7474:** SCM: Mercury

**EPA 8081B:** NPW and SCM: Mirex, Hexachlorobenzene.

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA 8270-SIM:** NPW and SCM: Alkylated PAHs.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

**Biological Tissue Matrix:** **8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:** Lead; **8270D:** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

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The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1,**

**SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA**

**350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D,**

**EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# CHAIN OF CUSTODY

PAGE 1 OF 2

8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-698-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

Date Rec'd in Lab: 7/6/16

ALPHA Job #: L1620742

## Client Information

Client: Innovative Engineering Solutions, Inc.

Address: 25 Spring St  
Waldpole, MA 02081

Phone: 508-668-0033

Email: v.parsons@IESIonline.com

Additional Project Information:

## Project Information

Project Name: Baytheon Wayland

Project Location: Wayland MA

Project #: RA-008

Project Manager: V. Parsons

ALPHA Quote #:

## Turn-Around Time

Standard  RUSH (only confirmed if pre-approved)

Date Due: 7/14/16

## Report Information - Data Deliverables

ADEX  EMAIL

## Billing Information

Same as Client info PO #: RA-008

## Regulatory Requirements & Project Information Requirements

- Yes  No MA MCP Analytical Methods  Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_

ANALYSIS VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2 SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15 METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PP13 EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only PCB <input type="checkbox"/> PEST TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint Disposal Code	SAMPLE INFO Filtration <input type="checkbox"/> Field <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do TOTAL # BOTTLES
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ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials																Sample Comments			
		Date	Time																					
20742.01	MW-265M-20160706	7/6/16	1135	CW	gg																			
.02	MW-267.5-20160705	7/5/16	1050	CW	gg																			
.03	MW-267M-20160705	7/5/16	1130	CW	gg																			
.04	MW-268.5-20160705	7/5/16	0915	CW	gg																			
.05	MW-268M-20160705	7/5/16	0935	CW	gg																			
.06	MW-561-20160705	7/5/16	1210	CW	gg																			
.07	MW-562-20160706	7/6/16	1055	CW	gg																			
.08	MW-563-20160705	7/5/16	1255	CW	gg																			
	<del>RAW-7-20160706</del>	<del>7/6/16</del>	<del>0930</del>	<del>CW</del>	<del>gg</del>																			Deleted
.09	RAW-7-20160706	7/6/16	0930	CW	gg																			

**Container Type**  
 P= Plastic  
 A= Amber glass  
 V= Vial  
 G= Glass  
 B= Bacteria cup  
 C= Cube  
 O= Other  
 E= Encore  
 D= BOD Bottle  
**Preservative**  
 A= None  
 B= HCl  
 C= HNO<sub>3</sub>  
 D= H<sub>2</sub>SO<sub>4</sub>  
 E= NaOH  
 F= MeOH  
 G= NaHSO<sub>4</sub>  
 H= Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 I= Ascorbic Acid  
 J= NH<sub>4</sub>Cl  
 K= Zn Acetate  
 O= Other

Container Type: U  
 Preservative: B

Relinquished By: [Signature]  
 Date/Time: 7/6/16 1330  
 Received By: -AAL  
 Date/Time: 7/6/16 1330

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
 FORM NO: 01-01 (rev. 12-Mar-2012)



# CHAIN OF CUSTODY

PAGE 2 OF 2

8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

Date Rec'd in Lab: 7/6/16

ALPHA Job #: U1620742

### Client Information

Client: Innovative Engineering Solutions, Inc  
Address: 25 Spring St  
Walpole MA 03081  
Phone: 508-668-0033  
Email: v.papirne@IESolutions.com

### Project Information

Project Name: Reynolds Wayland  
Project Location: Wayland MA  
Project #: RA-008  
Project Manager: Vicki Papirne  
ALPHA Quote #:

### Report Information - Data Deliverables

ADEX  EMAIL

### Billing Information

Same as Client info PO #: RA-008

### Regulatory Requirements & Project Information Requirements

Yes  No MA MCP Analytical Methods  Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 7/14/16

Additional Project Information:

**ANALYSIS**

VOC:  8260  624  824.2  
SVOC:  ABN  PAH  
METALS:  MCP 13  MCP 14  RCP 15  
METALS:  RCRA5  RCRA8  
EPH:  Ranges & Targets  Ranges Only  
VPH:  Ranges & Targets  Ranges Only  
 PCB  PEST  
TPH:  Quant Only  Fingerprint

*Disposal Costs*

**SAMPLE INFO**

Filtration  
 Field  
 Lab to do

Preservation  
 Lab to do

Sample Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	Fingerprint	Filtration	Preservation	Sample Comments
		Date	Time														
<u>20742, 10</u>	<u>RAW-8-201607006</u>	<u>7/5/16</u>	<u>0840</u>	<u>CW</u>	<u>g</u>										<input checked="" type="checkbox"/>		
<u>, 11</u>	<u>RAW-11-201607006</u>	<u>7/5/16</u>	<u>1015</u>	<u>CW</u>	<u>g</u>										<input checked="" type="checkbox"/>		
<u>, 12</u>	<u>RAW-12-201607006</u>	<u>7/5/16</u>	<u>0805</u>	<u>CW</u>	<u>g</u>										<input checked="" type="checkbox"/>		

**Container Type**  
 P= Plastic  
 A= Amber glass  
 V= Vial  
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 B= Bacteria cup  
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 D= BOD Bottle

**Preservative**  
 A= None  
 B= HCl  
 C= HNO3  
 D= H2SO4  
 E= NaOH  
 F= MeOH  
 G= NaHSO4  
 H= Na2S2O3  
 I= Ascorbic Acid  
 J= NH4Cl  
 K= Zn Acetate  
 O= Other

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

*[Signature]*  
Michael Wang

7/6/16 1330

-PAC

7/6/16 1330

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)