

**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>

9 August 2017  
Reference: 0377766

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 ten monitoring wells located on National Development property in July 2017. These samples were submitted to Alpha Analytical Laboratories, Inc. of 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.

Sincerely,



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



Lyndsey Colburn, P.G.  
*Principal Consultant*

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

cc: Jonathan Hone, Raytheon Company  
PIP Repositories



**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

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**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

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**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: 480-120816-1

Client Project/Site: IDS Wayland

For:

Innovative Engineering Solutions, Inc

25 Spring Street

Walpole, Massachusetts 02081

Attn: Vicki Pariyar



Authorized for release by:

7/19/2017 11:42:33 AM

Denise Giglia, Project Management Assistant II

[denise.giglia@testamericainc.com](mailto:denise.giglia@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: 480-120816-1

## Qualifiers

### GC/MS VOA

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

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

## 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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: 480-120816-1

## Job ID: 480-120816-1

### Laboratory: TestAmerica Buffalo

#### Narrative

#### Job Narrative 480-120816-1

#### Receipt

The samples were received on 7/11/2017 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

#### GC/MS VOA

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 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-267S-20170710 (480-120816-1), MW-268S-20170710 (480-120816-2), REW-6-20170710 (480-120816-4) and DUP-20170710 (480-120816-6). Elevated reporting limits (RLs) are provided.

Method 8260C: The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for batch 480-367338 exceeded control limits for the following analyte: 2-Butanone and 2-Hexanone. Unlike the calibration standards, this is due to the co-elution with Ethyl Acetate and 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-20170710 (480-120816-1), MW-268S-20170710 (480-120816-2), REW-6-20170710 (480-120816-4), REW-11-20170710 (480-120816-5), DUP-20170710 (480-120816-6) and TRIP BLANK (480-120816-7).

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-268M-20170710 (480-120816-3). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) for Dichlorodifluoromethane associated with batch 480-367425 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 sample was affected : MW-268M-20170710 (480-120816-3).

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-367425 exceeded control limits for the following analytes: 2-Butanone and 2-Hexanone. Unlike the calibration standards, this is due to the coelution with Ethyl Acetate and 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 sample was affected : MW-268M-20170710 (480-120816-3).

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-367425 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 sample was affected : MW-268M-20170710 (480-120816-3).

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

#### HPLC/IC

Method 300.0: The following samples was reported with elevated reporting limits for all analytes: MW-267S-20170710 (480-120816-1), MW-268M-20170710 (480-120816-3), REW-6-20170710 (480-120816-4) and REW-11-20170710 (480-120816-5). The sample was analyzed at a dilution based on screening results.

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

#### Metals

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

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



# Case Narrative

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

TestAmerica Job ID: 480-120816-1

## Job ID: 480-120816-1 (Continued)

### Laboratory: TestAmerica Buffalo (Continued)

#### General Chemistry

Method SM 2320B: The following samples was received with headspace in the sample bottle: MW-267S-20170710 (480-120816-1), MW-268S-20170710 (480-120816-2), MW-268M-20170710 (480-120816-3), REW-6-20170710 (480-120816-4) and REW-11-20170710 (480-120816-5).

Method 353.2: Reanalysis of the following samples was performed outside of the analytical holding time due to confirm NO<sub>3</sub><NO<sub>2</sub> relationship. : MW-267S-20170710 (480-120816-1), MW-268M-20170710 (480-120816-3) and REW-11-20170710 (480-120816-5).

Method 353.2: The inter parameter relationship between nitrate/nitrite and nitrite does not meet acceptable criteria. This has been confirmed in both NO<sub>3</sub>/NO<sub>2</sub> and NO<sub>2</sub> analysis for the following samples: MW-267S-20170710 (480-120816-1), MW-268M-20170710 (480-120816-3) and REW-11-20170710 (480-120816-5).

Method 353.2: The inter parameter relationship between nitrate/nitrite and nitrite does not meet acceptable criteria. This has been confirmed in both NO<sub>3</sub>/NO<sub>2</sub> and NO<sub>2</sub> analysis for the following samples: MW-267S-20170710 (480-120816-1), MW-268M-20170710 (480-120816-3) and REW-11-20170710 (480-120816-5).

Method 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-20170710 (480-120816-1), MW-268S-20170710 (480-120816-2), MW-268M-20170710 (480-120816-3), REW-6-20170710 (480-120816-4) and REW-11-20170710 (480-120816-5).

Method Nitrate by calc: The inter parameter relationship between nitrate/nitrite and nitrite does not meet acceptable criteria. This has been confirmed in both NO<sub>3</sub>/NO<sub>2</sub> and NO<sub>2</sub> analysis for the following samples: MW-267S-20170710 (480-120816-1), MW-268M-20170710 (480-120816-3) and REW-11-20170710 (480-120816-5).

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 #: **480-120816**  
 Project Location: **IDS Wayland** RTN:

**This form provides certifications for the following data set: list Laboratory Sample ID Number(s):**  
**480-120816[1-7]**

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 <input type="checkbox"/>	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>
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**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350**

<b>H</b>	Were all 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: Denise L. Giglia Position: Project Manager Assistant II  
 Printed Name: Denise L. Giglia Date: 7/19/17 11:31

# Detection Summary

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-267S-20170710**

**Lab Sample ID: 480-120816-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	420	*	40		ug/L	4		8260C	Total/NA
cis-1,2-Dichloroethene	160		4.0		ug/L	4		8260C	Total/NA
Toluene	78		4.0		ug/L	4		8260C	Total/NA
Vinyl chloride	22		4.0		ug/L	4		8260C	Total/NA
Iron	290		0.050		mg/L	1		6010	Total/NA
Chloride	50		2.5		mg/L	5		300.0	Total/NA
Sulfate	30		10		mg/L	5		300.0	Total/NA
Ammonia	0.21		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	1600		20		mg/L	20		9060A	Total/NA
TOC Result 2	1700		20		mg/L	20		9060A	Total/NA
Total Organic Carbon - Duplicates	1700		20		mg/L	20		9060A	Total/NA
Alkalinity, Total	530		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.14		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.3	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.5	HF	0.001		Degrees C	1		9040C	Total/NA

**Client Sample ID: MW-268S-20170710**

**Lab Sample ID: 480-120816-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	130		4.0		ug/L	4		8260C	Total/NA
Trichloroethene	170		4.0		ug/L	4		8260C	Total/NA
Vinyl chloride	5.6		4.0		ug/L	4		8260C	Total/NA
Iron	2.7		0.050		mg/L	1		6010	Total/NA
Chloride	16		0.50		mg/L	1		300.0	Total/NA
Sulfate	32		2.0		mg/L	1		300.0	Total/NA
TOC Result 1	97		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	97		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	97		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	99		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.16		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	9.8	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.5	HF	0.001		Degrees C	1		9040C	Total/NA

**Client Sample ID: MW-268M-20170710**

**Lab Sample ID: 480-120816-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	2.0		2.0		ug/L	2		8260C	Total/NA
2-Butanone (MEK)	70	*	20		ug/L	2		8260C	Total/NA
cis-1,2-Dichloroethene	36		2.0		ug/L	2		8260C	Total/NA
Toluene	6.9		2.0		ug/L	2		8260C	Total/NA
Vinyl chloride	150		2.0		ug/L	2		8260C	Total/NA
Iron	71		0.050		mg/L	1		6010	Total/NA
Chloride	45		2.5		mg/L	5		300.0	Total/NA
TOC Result 1	120		2.0		mg/L	2		9060A	Total/NA
TOC Result 2	130		2.0		mg/L	2		9060A	Total/NA
Total Organic Carbon - Duplicates	130		2.0		mg/L	2		9060A	Total/NA
Alkalinity, Total	420		5.0		mg/L	1		SM 2320B	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: 480-120816-1

## Client Sample ID: MW-268M-20170710 (Continued)

## Lab Sample ID: 480-120816-3

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.1	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		9040C	Total/NA

## Client Sample ID: REW-6-20170710

## Lab Sample ID: 480-120816-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	360	*	20		ug/L	2		8260C	Total/NA
Naphthalene	14		10		ug/L	2		8260C	Total/NA
Toluene	29		2.0		ug/L	2		8260C	Total/NA
Iron	5.2		0.050		mg/L	1		6010	Total/NA
Chloride	61		5.0		mg/L	10		300.0	Total/NA
Ammonia	0.34		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	4200		80		mg/L	80		9060A	Total/NA
TOC Result 2	4400		80		mg/L	80		9060A	Total/NA
Total Organic Carbon - Duplicates	4300		80		mg/L	80		9060A	Total/NA
Alkalinity, Total	610		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.23		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.2	HF	0.001		Degrees C	1		9040C	Total/NA

## Client Sample ID: REW-11-20170710

## Lab Sample ID: 480-120816-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	67	*	10		ug/L	1		8260C	Total/NA
Toluene	9.0		1.0		ug/L	1		8260C	Total/NA
Iron	46		0.050		mg/L	1		6010	Total/NA
Chloride	73		2.5		mg/L	5		300.0	Total/NA
Ammonia	0.25		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	1400		20		mg/L	20		9060A	Total/NA
TOC Result 2	1500		20		mg/L	20		9060A	Total/NA
Total Organic Carbon - Duplicates	1500		20		mg/L	20		9060A	Total/NA
Alkalinity, Total	560		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.081		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.8	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.3	HF	0.001		Degrees C	1		9040C	Total/NA

## Client Sample ID: DUP-20170710

## Lab Sample ID: 480-120816-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	130		4.0		ug/L	4		8260C	Total/NA
Trichloroethene	180		4.0		ug/L	4		8260C	Total/NA
Vinyl chloride	5.6		4.0		ug/L	4		8260C	Total/NA

## Client Sample ID: TRIP BLANK

## Lab Sample ID: 480-120816-7

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: 480-120816-1

**Client Sample ID: MW-267S-20170710**

**Lab Sample ID: 480-120816-1**

**Date Collected: 07/10/17 12:10**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 05:26	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/18/17 05:26	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 05:26	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/18/17 05:26	4
1,1-Dichloroethane	ND		4.0		ug/L			07/18/17 05:26	4
1,1-Dichloroethene	ND		4.0		ug/L			07/18/17 05:26	4
1,1-Dichloropropene	ND		4.0		ug/L			07/18/17 05:26	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/18/17 05:26	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/18/17 05:26	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,2-Dichloroethane	ND		4.0		ug/L			07/18/17 05:26	4
1,2-Dichloropropane	ND		4.0		ug/L			07/18/17 05:26	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,3-Dichloropropane	ND		4.0		ug/L			07/18/17 05:26	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/18/17 05:26	4
1,4-Dioxane	ND		200		ug/L			07/18/17 05:26	4
2,2-Dichloropropane	ND		4.0		ug/L			07/18/17 05:26	4
<b>2-Butanone (MEK)</b>	<b>420</b>	*	40		ug/L			07/18/17 05:26	4
2-Chlorotoluene	ND		4.0		ug/L			07/18/17 05:26	4
2-Hexanone	ND	*	40		ug/L			07/18/17 05:26	4
4-Chlorotoluene	ND		4.0		ug/L			07/18/17 05:26	4
4-Isopropyltoluene	ND		4.0		ug/L			07/18/17 05:26	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/18/17 05:26	4
Acetone	ND		200		ug/L			07/18/17 05:26	4
Benzene	ND		4.0		ug/L			07/18/17 05:26	4
Bromobenzene	ND		4.0		ug/L			07/18/17 05:26	4
Bromoform	ND		4.0		ug/L			07/18/17 05:26	4
Bromomethane	ND		8.0		ug/L			07/18/17 05:26	4
Carbon disulfide	ND		40		ug/L			07/18/17 05:26	4
Carbon tetrachloride	ND		4.0		ug/L			07/18/17 05:26	4
Chlorobenzene	ND		4.0		ug/L			07/18/17 05:26	4
Chlorobromomethane	ND		4.0		ug/L			07/18/17 05:26	4
Chlorodibromomethane	ND		2.0		ug/L			07/18/17 05:26	4
Chloroethane	ND		8.0		ug/L			07/18/17 05:26	4
Chloroform	ND		4.0		ug/L			07/18/17 05:26	4
Chloromethane	ND		8.0		ug/L			07/18/17 05:26	4
<b>cis-1,2-Dichloroethene</b>	<b>160</b>		4.0		ug/L			07/18/17 05:26	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 05:26	4
Dichlorobromomethane	ND		2.0		ug/L			07/18/17 05:26	4
Dichlorodifluoromethane	ND		4.0		ug/L			07/18/17 05:26	4
Ethyl ether	ND		4.0		ug/L			07/18/17 05:26	4
Ethylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
Ethylene Dibromide	ND		4.0		ug/L			07/18/17 05:26	4
Hexachlorobutadiene	ND		1.6		ug/L			07/18/17 05:26	4
Isopropyl ether	ND		40		ug/L			07/18/17 05:26	4

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-267S-20170710**

**Lab Sample ID: 480-120816-1**

**Date Collected: 07/10/17 12:10**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

## 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			07/18/17 05:26	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/18/17 05:26	4
Methylene Chloride	ND		4.0		ug/L			07/18/17 05:26	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/18/17 05:26	4
Naphthalene	ND		20		ug/L			07/18/17 05:26	4
n-Butylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
N-Propylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
o-Xylene	ND		4.0		ug/L			07/18/17 05:26	4
sec-Butylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
Styrene	ND		4.0		ug/L			07/18/17 05:26	4
Tert-amyl methyl ether	ND		20		ug/L			07/18/17 05:26	4
Tert-butyl ethyl ether	ND		20		ug/L			07/18/17 05:26	4
tert-Butylbenzene	ND		4.0		ug/L			07/18/17 05:26	4
Tetrachloroethene	ND		4.0		ug/L			07/18/17 05:26	4
Tetrahydrofuran	ND		40		ug/L			07/18/17 05:26	4
<b>Toluene</b>	<b>78</b>		4.0		ug/L			07/18/17 05:26	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/18/17 05:26	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 05:26	4
Trichloroethene	ND		4.0		ug/L			07/18/17 05:26	4
Trichlorofluoromethane	ND		4.0		ug/L			07/18/17 05:26	4
<b>Vinyl chloride</b>	<b>22</b>		4.0		ug/L			07/18/17 05:26	4
Dibromomethane	ND		4.0		ug/L			07/18/17 05:26	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	102		70 - 130		07/18/17 05:26	4
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		70 - 130		07/18/17 05:26	4
<i>4-Bromofluorobenzene (Surr)</i>	98		70 - 130		07/18/17 05:26	4

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>290</b>		0.050		mg/L		07/11/17 10:47	07/12/17 00:42	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>50</b>		2.5		mg/L			07/14/17 19:33	5
<b>Sulfate</b>	<b>30</b>		10		mg/L			07/14/17 19:33	5
<b>Ammonia</b>	<b>0.21</b>		0.20		mg/L		07/12/17 19:57	07/13/17 10:53	1
Nitrate as N	ND		0.050		mg/L			07/11/17 21:13	1
<b>TOC Result 1</b>	<b>1600</b>		20		mg/L			07/17/17 21:00	20
<b>TOC Result 2</b>	<b>1700</b>		20		mg/L			07/17/17 21:00	20
<b>Total Organic Carbon - Duplicates</b>	<b>1700</b>		20		mg/L			07/17/17 21:00	20
<b>Alkalinity, Total</b>	<b>530</b>		5.0		mg/L			07/11/17 18:07	1
<b>ortho-Phosphate</b>	<b>0.14</b>		0.020		mg/L			07/11/17 14:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>5.3</b>	<b>HF</b>	0.1		SU			07/11/17 18:25	1
<b>Temperature</b>	<b>21.5</b>	<b>HF</b>	0.001		Degrees C			07/11/17 18:25	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-268S-20170710**

**Lab Sample ID: 480-120816-2**

**Date Collected: 07/10/17 08:55**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 05:51	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/18/17 05:51	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 05:51	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/18/17 05:51	4
1,1-Dichloroethane	ND		4.0		ug/L			07/18/17 05:51	4
1,1-Dichloroethene	ND		4.0		ug/L			07/18/17 05:51	4
1,1-Dichloropropene	ND		4.0		ug/L			07/18/17 05:51	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/18/17 05:51	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/18/17 05:51	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,2-Dichloroethane	ND		4.0		ug/L			07/18/17 05:51	4
1,2-Dichloropropane	ND		4.0		ug/L			07/18/17 05:51	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,3-Dichloropropane	ND		4.0		ug/L			07/18/17 05:51	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/18/17 05:51	4
1,4-Dioxane	ND		200		ug/L			07/18/17 05:51	4
2,2-Dichloropropane	ND		4.0		ug/L			07/18/17 05:51	4
2-Butanone (MEK)	ND	*	40		ug/L			07/18/17 05:51	4
2-Chlorotoluene	ND		4.0		ug/L			07/18/17 05:51	4
2-Hexanone	ND	*	40		ug/L			07/18/17 05:51	4
4-Chlorotoluene	ND		4.0		ug/L			07/18/17 05:51	4
4-Isopropyltoluene	ND		4.0		ug/L			07/18/17 05:51	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/18/17 05:51	4
Acetone	ND		200		ug/L			07/18/17 05:51	4
Benzene	ND		4.0		ug/L			07/18/17 05:51	4
Bromobenzene	ND		4.0		ug/L			07/18/17 05:51	4
Bromoform	ND		4.0		ug/L			07/18/17 05:51	4
Bromomethane	ND		8.0		ug/L			07/18/17 05:51	4
Carbon disulfide	ND		40		ug/L			07/18/17 05:51	4
Carbon tetrachloride	ND		4.0		ug/L			07/18/17 05:51	4
Chlorobenzene	ND		4.0		ug/L			07/18/17 05:51	4
Chlorobromomethane	ND		4.0		ug/L			07/18/17 05:51	4
Chlorodibromomethane	ND		2.0		ug/L			07/18/17 05:51	4
Chloroethane	ND		8.0		ug/L			07/18/17 05:51	4
Chloroform	ND		4.0		ug/L			07/18/17 05:51	4
Chloromethane	ND		8.0		ug/L			07/18/17 05:51	4
<b>cis-1,2-Dichloroethene</b>	<b>130</b>		4.0		ug/L			07/18/17 05:51	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 05:51	4
Dichlorobromomethane	ND		2.0		ug/L			07/18/17 05:51	4
Dichlorodifluoromethane	ND		4.0		ug/L			07/18/17 05:51	4
Ethyl ether	ND		4.0		ug/L			07/18/17 05:51	4
Ethylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
Ethylene Dibromide	ND		4.0		ug/L			07/18/17 05:51	4
Hexachlorobutadiene	ND		1.6		ug/L			07/18/17 05:51	4
Isopropyl ether	ND		40		ug/L			07/18/17 05:51	4

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-268S-20170710**

**Lab Sample ID: 480-120816-2**

**Date Collected: 07/10/17 08:55**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

## 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			07/18/17 05:51	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/18/17 05:51	4
Methylene Chloride	ND		4.0		ug/L			07/18/17 05:51	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/18/17 05:51	4
Naphthalene	ND		20		ug/L			07/18/17 05:51	4
n-Butylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
N-Propylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
o-Xylene	ND		4.0		ug/L			07/18/17 05:51	4
sec-Butylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
Styrene	ND		4.0		ug/L			07/18/17 05:51	4
Tert-amyl methyl ether	ND		20		ug/L			07/18/17 05:51	4
Tert-butyl ethyl ether	ND		20		ug/L			07/18/17 05:51	4
tert-Butylbenzene	ND		4.0		ug/L			07/18/17 05:51	4
Tetrachloroethene	ND		4.0		ug/L			07/18/17 05:51	4
Tetrahydrofuran	ND		40		ug/L			07/18/17 05:51	4
Toluene	ND		4.0		ug/L			07/18/17 05:51	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/18/17 05:51	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 05:51	4
<b>Trichloroethene</b>	<b>170</b>		4.0		ug/L			07/18/17 05:51	4
Trichlorofluoromethane	ND		4.0		ug/L			07/18/17 05:51	4
<b>Vinyl chloride</b>	<b>5.6</b>		4.0		ug/L			07/18/17 05:51	4
Dibromomethane	ND		4.0		ug/L			07/18/17 05:51	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		07/18/17 05:51	4
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		07/18/17 05:51	4
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 05:51	4

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>2.7</b>		0.050		mg/L		07/11/17 10:47	07/12/17 00:45	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>16</b>		0.50		mg/L			07/14/17 19:47	1
<b>Sulfate</b>	<b>32</b>		2.0		mg/L			07/14/17 19:47	1
Ammonia	ND		0.20		mg/L		07/12/17 19:57	07/13/17 10:54	1
Nitrate as N	ND		0.050		mg/L			07/11/17 18:11	1
<b>TOC Result 1</b>	<b>97</b>		1.0		mg/L			07/16/17 23:26	1
<b>TOC Result 2</b>	<b>97</b>		1.0		mg/L			07/16/17 23:26	1
<b>Total Organic Carbon - Duplicates</b>	<b>97</b>		1.0		mg/L			07/16/17 23:26	1
<b>Alkalinity, Total</b>	<b>99</b>		5.0		mg/L			07/11/17 18:14	1
<b>ortho-Phosphate</b>	<b>0.16</b>		0.020		mg/L			07/11/17 14:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>9.8</b>	<b>HF</b>	0.1		SU			07/11/17 18:28	1
<b>Temperature</b>	<b>21.5</b>	<b>HF</b>	0.001		Degrees C			07/11/17 18:28	1

TestAmerica Buffalo



# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-268M-20170710**

**Lab Sample ID: 480-120816-3**

**Date Collected: 07/10/17 09:35**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 15:19	2
1,1,1-Trichloroethane	ND		2.0		ug/L			07/18/17 15:19	2
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/18/17 15:19	2
1,1,2-Trichloroethane	ND		2.0		ug/L			07/18/17 15:19	2
<b>1,1-Dichloroethane</b>	<b>2.0</b>		2.0		ug/L			07/18/17 15:19	2
1,1-Dichloroethene	ND		2.0		ug/L			07/18/17 15:19	2
1,1-Dichloropropene	ND		2.0		ug/L			07/18/17 15:19	2
1,2,3-Trichlorobenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,2,3-Trichloropropane	ND		2.0		ug/L			07/18/17 15:19	2
1,2,4-Trichlorobenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			07/18/17 15:19	2
1,2-Dichlorobenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,2-Dichloroethane	ND		2.0		ug/L			07/18/17 15:19	2
1,2-Dichloropropane	ND		2.0		ug/L			07/18/17 15:19	2
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,3-Dichlorobenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,3-Dichloropropane	ND		2.0		ug/L			07/18/17 15:19	2
1,4-Dichlorobenzene	ND		2.0		ug/L			07/18/17 15:19	2
1,4-Dioxane	ND		100		ug/L			07/18/17 15:19	2
2,2-Dichloropropane	ND		2.0		ug/L			07/18/17 15:19	2
<b>2-Butanone (MEK)</b>	<b>70</b>	*	20		ug/L			07/18/17 15:19	2
2-Chlorotoluene	ND		2.0		ug/L			07/18/17 15:19	2
2-Hexanone	ND	*	20		ug/L			07/18/17 15:19	2
4-Chlorotoluene	ND		2.0		ug/L			07/18/17 15:19	2
4-Isopropyltoluene	ND		2.0		ug/L			07/18/17 15:19	2
4-Methyl-2-pentanone (MIBK)	ND		20		ug/L			07/18/17 15:19	2
Acetone	ND		100		ug/L			07/18/17 15:19	2
Benzene	ND		2.0		ug/L			07/18/17 15:19	2
Bromobenzene	ND		2.0		ug/L			07/18/17 15:19	2
Bromoform	ND		2.0		ug/L			07/18/17 15:19	2
Bromomethane	ND		4.0		ug/L			07/18/17 15:19	2
Carbon disulfide	ND		20		ug/L			07/18/17 15:19	2
Carbon tetrachloride	ND		2.0		ug/L			07/18/17 15:19	2
Chlorobenzene	ND		2.0		ug/L			07/18/17 15:19	2
Chlorobromomethane	ND		2.0		ug/L			07/18/17 15:19	2
Chlorodibromomethane	ND		1.0		ug/L			07/18/17 15:19	2
Chloroethane	ND		4.0		ug/L			07/18/17 15:19	2
Chloroform	ND		2.0		ug/L			07/18/17 15:19	2
Chloromethane	ND		4.0		ug/L			07/18/17 15:19	2
<b>cis-1,2-Dichloroethene</b>	<b>36</b>		2.0		ug/L			07/18/17 15:19	2
cis-1,3-Dichloropropene	ND		0.80		ug/L			07/18/17 15:19	2
Dichlorobromomethane	ND		1.0		ug/L			07/18/17 15:19	2
Dichlorodifluoromethane	ND	*	2.0		ug/L			07/18/17 15:19	2
Ethyl ether	ND		2.0		ug/L			07/18/17 15:19	2
Ethylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
Ethylene Dibromide	ND		2.0		ug/L			07/18/17 15:19	2
Hexachlorobutadiene	ND		0.80		ug/L			07/18/17 15:19	2
Isopropyl ether	ND		20		ug/L			07/18/17 15:19	2

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-268M-20170710**

**Lab Sample ID: 480-120816-3**

**Date Collected: 07/10/17 09:35**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
Methyl tert-butyl ether	ND		2.0		ug/L			07/18/17 15:19	2
Methylene Chloride	ND		2.0		ug/L			07/18/17 15:19	2
m-Xylene & p-Xylene	ND		4.0		ug/L			07/18/17 15:19	2
Naphthalene	ND		10		ug/L			07/18/17 15:19	2
n-Butylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
N-Propylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
o-Xylene	ND		2.0		ug/L			07/18/17 15:19	2
sec-Butylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
Styrene	ND		2.0		ug/L			07/18/17 15:19	2
Tert-amyl methyl ether	ND		10		ug/L			07/18/17 15:19	2
Tert-butyl ethyl ether	ND		10		ug/L			07/18/17 15:19	2
tert-Butylbenzene	ND		2.0		ug/L			07/18/17 15:19	2
Tetrachloroethene	ND		2.0		ug/L			07/18/17 15:19	2
Tetrahydrofuran	ND		20		ug/L			07/18/17 15:19	2
<b>Toluene</b>	<b>6.9</b>		2.0		ug/L			07/18/17 15:19	2
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/18/17 15:19	2
trans-1,3-Dichloropropene	ND		0.80		ug/L			07/18/17 15:19	2
Trichloroethene	ND		2.0		ug/L			07/18/17 15:19	2
Trichlorofluoromethane	ND		2.0		ug/L			07/18/17 15:19	2
<b>Vinyl chloride</b>	<b>150</b>		2.0		ug/L			07/18/17 15:19	2
Dibromomethane	ND		2.0		ug/L			07/18/17 15:19	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	102		70 - 130		07/18/17 15:19	2
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		70 - 130		07/18/17 15:19	2
<i>4-Bromofluorobenzene (Surr)</i>	98		70 - 130		07/18/17 15:19	2

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>71</b>		0.050		mg/L		07/11/17 10:47	07/12/17 01:13	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>45</b>		2.5		mg/L			07/14/17 21:00	5
Sulfate	ND		10		mg/L			07/14/17 21:00	5
Ammonia	ND		0.20		mg/L		07/12/17 19:57	07/13/17 10:58	1
Nitrate as N	ND		0.050		mg/L			07/11/17 21:14	1
<b>TOC Result 1</b>	<b>120</b>		2.0		mg/L			07/17/17 21:50	2
<b>TOC Result 2</b>	<b>130</b>		2.0		mg/L			07/17/17 21:50	2
<b>Total Organic Carbon - Duplicates</b>	<b>130</b>		2.0		mg/L			07/17/17 21:50	2
<b>Alkalinity, Total</b>	<b>420</b>		5.0		mg/L			07/11/17 18:22	1
ortho-Phosphate	ND		0.020		mg/L			07/11/17 14:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.1</b>	<b>HF</b>	0.1		SU			07/11/17 18:33	1
<b>Temperature</b>	<b>21.4</b>	<b>HF</b>	0.001		Degrees C			07/11/17 18:33	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: REW-6-20170710**

**Lab Sample ID: 480-120816-4**

**Date Collected: 07/10/17 11:30**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 06:41	2
1,1,1-Trichloroethane	ND		2.0		ug/L			07/18/17 06:41	2
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/18/17 06:41	2
1,1,2-Trichloroethane	ND		2.0		ug/L			07/18/17 06:41	2
1,1-Dichloroethane	ND		2.0		ug/L			07/18/17 06:41	2
1,1-Dichloroethene	ND		2.0		ug/L			07/18/17 06:41	2
1,1-Dichloropropene	ND		2.0		ug/L			07/18/17 06:41	2
1,2,3-Trichlorobenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,2,3-Trichloropropane	ND		2.0		ug/L			07/18/17 06:41	2
1,2,4-Trichlorobenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			07/18/17 06:41	2
1,2-Dichlorobenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,2-Dichloroethane	ND		2.0		ug/L			07/18/17 06:41	2
1,2-Dichloropropane	ND		2.0		ug/L			07/18/17 06:41	2
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,3-Dichlorobenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,3-Dichloropropane	ND		2.0		ug/L			07/18/17 06:41	2
1,4-Dichlorobenzene	ND		2.0		ug/L			07/18/17 06:41	2
1,4-Dioxane	ND		100		ug/L			07/18/17 06:41	2
2,2-Dichloropropane	ND		2.0		ug/L			07/18/17 06:41	2
<b>2-Butanone (MEK)</b>	<b>360</b>	*	20		ug/L			07/18/17 06:41	2
2-Chlorotoluene	ND		2.0		ug/L			07/18/17 06:41	2
2-Hexanone	ND	*	20		ug/L			07/18/17 06:41	2
4-Chlorotoluene	ND		2.0		ug/L			07/18/17 06:41	2
4-Isopropyltoluene	ND		2.0		ug/L			07/18/17 06:41	2
4-Methyl-2-pentanone (MIBK)	ND		20		ug/L			07/18/17 06:41	2
Acetone	ND		100		ug/L			07/18/17 06:41	2
Benzene	ND		2.0		ug/L			07/18/17 06:41	2
Bromobenzene	ND		2.0		ug/L			07/18/17 06:41	2
Bromoform	ND		2.0		ug/L			07/18/17 06:41	2
Bromomethane	ND		4.0		ug/L			07/18/17 06:41	2
Carbon disulfide	ND		20		ug/L			07/18/17 06:41	2
Carbon tetrachloride	ND		2.0		ug/L			07/18/17 06:41	2
Chlorobenzene	ND		2.0		ug/L			07/18/17 06:41	2
Chlorobromomethane	ND		2.0		ug/L			07/18/17 06:41	2
Chlorodibromomethane	ND		1.0		ug/L			07/18/17 06:41	2
Chloroethane	ND		4.0		ug/L			07/18/17 06:41	2
Chloroform	ND		2.0		ug/L			07/18/17 06:41	2
Chloromethane	ND		4.0		ug/L			07/18/17 06:41	2
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/18/17 06:41	2
cis-1,3-Dichloropropene	ND		0.80		ug/L			07/18/17 06:41	2
Dichlorobromomethane	ND		1.0		ug/L			07/18/17 06:41	2
Dichlorodifluoromethane	ND		2.0		ug/L			07/18/17 06:41	2
Ethyl ether	ND		2.0		ug/L			07/18/17 06:41	2
Ethylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
Ethylene Dibromide	ND		2.0		ug/L			07/18/17 06:41	2
Hexachlorobutadiene	ND		0.80		ug/L			07/18/17 06:41	2
Isopropyl ether	ND		20		ug/L			07/18/17 06:41	2

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: REW-6-20170710**

**Lab Sample ID: 480-120816-4**

**Date Collected: 07/10/17 11:30**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
Methyl tert-butyl ether	ND		2.0		ug/L			07/18/17 06:41	2
Methylene Chloride	ND		2.0		ug/L			07/18/17 06:41	2
m-Xylene & p-Xylene	ND		4.0		ug/L			07/18/17 06:41	2
<b>Naphthalene</b>	<b>14</b>		10		ug/L			07/18/17 06:41	2
n-Butylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
N-Propylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
o-Xylene	ND		2.0		ug/L			07/18/17 06:41	2
sec-Butylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
Styrene	ND		2.0		ug/L			07/18/17 06:41	2
Tert-amyl methyl ether	ND		10		ug/L			07/18/17 06:41	2
Tert-butyl ethyl ether	ND		10		ug/L			07/18/17 06:41	2
tert-Butylbenzene	ND		2.0		ug/L			07/18/17 06:41	2
Tetrachloroethene	ND		2.0		ug/L			07/18/17 06:41	2
Tetrahydrofuran	ND		20		ug/L			07/18/17 06:41	2
<b>Toluene</b>	<b>29</b>		2.0		ug/L			07/18/17 06:41	2
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/18/17 06:41	2
trans-1,3-Dichloropropene	ND		0.80		ug/L			07/18/17 06:41	2
Trichloroethene	ND		2.0		ug/L			07/18/17 06:41	2
Trichlorofluoromethane	ND		2.0		ug/L			07/18/17 06:41	2
Vinyl chloride	ND		2.0		ug/L			07/18/17 06:41	2
Dibromomethane	ND		2.0		ug/L			07/18/17 06:41	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		07/18/17 06:41	2
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		07/18/17 06:41	2
4-Bromofluorobenzene (Surr)	97		70 - 130		07/18/17 06:41	2

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>5.2</b>		0.050		mg/L		07/11/17 10:47	07/12/17 01:16	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>61</b>		5.0		mg/L			07/14/17 21:15	10
Sulfate	ND		20		mg/L			07/14/17 21:15	10
<b>Ammonia</b>	<b>0.34</b>		0.20		mg/L		07/12/17 19:57	07/13/17 10:59	1
Nitrate as N	ND		0.050		mg/L			07/11/17 18:16	1
<b>TOC Result 1</b>	<b>4200</b>		80		mg/L			07/18/17 11:53	80
<b>TOC Result 2</b>	<b>4400</b>		80		mg/L			07/18/17 11:53	80
<b>Total Organic Carbon - Duplicates</b>	<b>4300</b>		80		mg/L			07/18/17 11:53	80
<b>Alkalinity, Total</b>	<b>610</b>		5.0		mg/L			07/11/17 18:31	1
<b>ortho-Phosphate</b>	<b>0.23</b>		0.020		mg/L			07/11/17 14:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.3</b>	<b>HF</b>	0.1		SU			07/11/17 18:35	1
<b>Temperature</b>	<b>21.2</b>	<b>HF</b>	0.001		Degrees C			07/11/17 18:35	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: REW-11-20170710**

**Lab Sample ID: 480-120816-5**

**Date Collected: 07/10/17 10:25**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 07:06	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 07:06	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 07:06	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 07:06	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 07:06	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 07:06	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 07:06	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 07:06	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 07:06	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 07:06	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 07:06	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 07:06	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 07:06	1
1,4-Dioxane	ND		50		ug/L			07/18/17 07:06	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 07:06	1
<b>2-Butanone (MEK)</b>	<b>67</b>	*	10		ug/L			07/18/17 07:06	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 07:06	1
2-Hexanone	ND	*	10		ug/L			07/18/17 07:06	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 07:06	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 07:06	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 07:06	1
Acetone	ND		50		ug/L			07/18/17 07:06	1
Benzene	ND		1.0		ug/L			07/18/17 07:06	1
Bromobenzene	ND		1.0		ug/L			07/18/17 07:06	1
Bromoform	ND		1.0		ug/L			07/18/17 07:06	1
Bromomethane	ND		2.0		ug/L			07/18/17 07:06	1
Carbon disulfide	ND		10		ug/L			07/18/17 07:06	1
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 07:06	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 07:06	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 07:06	1
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 07:06	1
Chloroethane	ND		2.0		ug/L			07/18/17 07:06	1
Chloroform	ND		1.0		ug/L			07/18/17 07:06	1
Chloromethane	ND		2.0		ug/L			07/18/17 07:06	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 07:06	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 07:06	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 07:06	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/18/17 07:06	1
Ethyl ether	ND		1.0		ug/L			07/18/17 07:06	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 07:06	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 07:06	1
Isopropyl ether	ND		10		ug/L			07/18/17 07:06	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: REW-11-20170710**

**Lab Sample ID: 480-120816-5**

**Date Collected: 07/10/17 10:25**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

## 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			07/18/17 07:06	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/18/17 07:06	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 07:06	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 07:06	1
Naphthalene	ND		5.0		ug/L			07/18/17 07:06	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
o-Xylene	ND		1.0		ug/L			07/18/17 07:06	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
Styrene	ND		1.0		ug/L			07/18/17 07:06	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 07:06	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 07:06	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 07:06	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 07:06	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 07:06	1
<b>Toluene</b>	<b>9.0</b>		1.0		ug/L			07/18/17 07:06	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 07:06	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 07:06	1
Trichloroethene	ND		1.0		ug/L			07/18/17 07:06	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 07:06	1
Vinyl chloride	ND		1.0		ug/L			07/18/17 07:06	1
Dibromomethane	ND		1.0		ug/L			07/18/17 07:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	98		70 - 130		07/18/17 07:06	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	101		70 - 130		07/18/17 07:06	1
<i>4-Bromofluorobenzene (Surr)</i>	94		70 - 130		07/18/17 07:06	1

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>46</b>		0.050		mg/L		07/11/17 10:47	07/12/17 01:20	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>73</b>		2.5		mg/L			07/14/17 21:29	5
Sulfate	ND		10		mg/L			07/14/17 21:29	5
<b>Ammonia</b>	<b>0.25</b>		0.20		mg/L		07/12/17 19:57	07/13/17 11:00	1
Nitrate as N	ND		0.050		mg/L			07/11/17 21:15	1
<b>TOC Result 1</b>	<b>1400</b>		20		mg/L			07/17/17 23:32	20
<b>TOC Result 2</b>	<b>1500</b>		20		mg/L			07/17/17 23:32	20
<b>Total Organic Carbon - Duplicates</b>	<b>1500</b>		20		mg/L			07/17/17 23:32	20
<b>Alkalinity, Total</b>	<b>560</b>		5.0		mg/L			07/11/17 18:40	1
<b>ortho-Phosphate</b>	<b>0.081</b>		0.020		mg/L			07/11/17 14:04	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>6.8</b>	<b>HF</b>	0.1		SU			07/11/17 18:38	1
<b>Temperature</b>	<b>21.3</b>	<b>HF</b>	0.001		Degrees C			07/11/17 18:38	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: DUP-20170710**

**Lab Sample ID: 480-120816-6**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 07:31	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/18/17 07:31	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 07:31	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/18/17 07:31	4
1,1-Dichloroethane	ND		4.0		ug/L			07/18/17 07:31	4
1,1-Dichloroethene	ND		4.0		ug/L			07/18/17 07:31	4
1,1-Dichloropropene	ND		4.0		ug/L			07/18/17 07:31	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/18/17 07:31	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/18/17 07:31	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,2-Dichloroethane	ND		4.0		ug/L			07/18/17 07:31	4
1,2-Dichloropropane	ND		4.0		ug/L			07/18/17 07:31	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,3-Dichloropropane	ND		4.0		ug/L			07/18/17 07:31	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/18/17 07:31	4
1,4-Dioxane	ND		200		ug/L			07/18/17 07:31	4
2,2-Dichloropropane	ND		4.0		ug/L			07/18/17 07:31	4
2-Butanone (MEK)	ND	*	40		ug/L			07/18/17 07:31	4
2-Chlorotoluene	ND		4.0		ug/L			07/18/17 07:31	4
2-Hexanone	ND	*	40		ug/L			07/18/17 07:31	4
4-Chlorotoluene	ND		4.0		ug/L			07/18/17 07:31	4
4-Isopropyltoluene	ND		4.0		ug/L			07/18/17 07:31	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/18/17 07:31	4
Acetone	ND		200		ug/L			07/18/17 07:31	4
Benzene	ND		4.0		ug/L			07/18/17 07:31	4
Bromobenzene	ND		4.0		ug/L			07/18/17 07:31	4
Bromoform	ND		4.0		ug/L			07/18/17 07:31	4
Bromomethane	ND		8.0		ug/L			07/18/17 07:31	4
Carbon disulfide	ND		40		ug/L			07/18/17 07:31	4
Carbon tetrachloride	ND		4.0		ug/L			07/18/17 07:31	4
Chlorobenzene	ND		4.0		ug/L			07/18/17 07:31	4
Chlorobromomethane	ND		4.0		ug/L			07/18/17 07:31	4
Chlorodibromomethane	ND		2.0		ug/L			07/18/17 07:31	4
Chloroethane	ND		8.0		ug/L			07/18/17 07:31	4
Chloroform	ND		4.0		ug/L			07/18/17 07:31	4
Chloromethane	ND		8.0		ug/L			07/18/17 07:31	4
<b>cis-1,2-Dichloroethene</b>	<b>130</b>		4.0		ug/L			07/18/17 07:31	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 07:31	4
Dichlorobromomethane	ND		2.0		ug/L			07/18/17 07:31	4
Dichlorodifluoromethane	ND		4.0		ug/L			07/18/17 07:31	4
Ethyl ether	ND		4.0		ug/L			07/18/17 07:31	4
Ethylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
Ethylene Dibromide	ND		4.0		ug/L			07/18/17 07:31	4
Hexachlorobutadiene	ND		1.6		ug/L			07/18/17 07:31	4
Isopropyl ether	ND		40		ug/L			07/18/17 07:31	4

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: DUP-20170710**

**Lab Sample ID: 480-120816-6**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 07:31	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/18/17 07:31	4
Methylene Chloride	ND		4.0		ug/L			07/18/17 07:31	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/18/17 07:31	4
Naphthalene	ND		20		ug/L			07/18/17 07:31	4
n-Butylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
N-Propylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
o-Xylene	ND		4.0		ug/L			07/18/17 07:31	4
sec-Butylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
Styrene	ND		4.0		ug/L			07/18/17 07:31	4
Tert-amyl methyl ether	ND		20		ug/L			07/18/17 07:31	4
Tert-butyl ethyl ether	ND		20		ug/L			07/18/17 07:31	4
tert-Butylbenzene	ND		4.0		ug/L			07/18/17 07:31	4
Tetrachloroethene	ND		4.0		ug/L			07/18/17 07:31	4
Tetrahydrofuran	ND		40		ug/L			07/18/17 07:31	4
Toluene	ND		4.0		ug/L			07/18/17 07:31	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/18/17 07:31	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 07:31	4
<b>Trichloroethene</b>	<b>180</b>		4.0		ug/L			07/18/17 07:31	4
Trichlorofluoromethane	ND		4.0		ug/L			07/18/17 07:31	4
<b>Vinyl chloride</b>	<b>5.6</b>		4.0		ug/L			07/18/17 07:31	4
Dibromomethane	ND		4.0		ug/L			07/18/17 07:31	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		07/18/17 07:31	4
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		07/18/17 07:31	4
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 07:31	4

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-120816-7**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 07:56	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 07:56	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 07:56	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 07:56	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 07:56	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 07:56	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 07:56	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 07:56	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 07:56	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 07:56	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 07:56	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 07:56	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 07:56	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 07:56	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 07:56	1

TestAmerica Buffalo



# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-120816-7**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 07:56	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 07:56	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 07:56	1
1,4-Dioxane	ND		50		ug/L			07/18/17 07:56	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 07:56	1
2-Butanone (MEK)	ND	*	10		ug/L			07/18/17 07:56	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 07:56	1
2-Hexanone	ND	*	10		ug/L			07/18/17 07:56	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 07:56	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 07:56	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 07:56	1
Acetone	ND		50		ug/L			07/18/17 07:56	1
Benzene	ND		1.0		ug/L			07/18/17 07:56	1
Bromobenzene	ND		1.0		ug/L			07/18/17 07:56	1
Bromoform	ND		1.0		ug/L			07/18/17 07:56	1
Bromomethane	ND		2.0		ug/L			07/18/17 07:56	1
Carbon disulfide	ND		10		ug/L			07/18/17 07:56	1
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 07:56	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 07:56	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 07:56	1
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 07:56	1
Chloroethane	ND		2.0		ug/L			07/18/17 07:56	1
Chloroform	ND		1.0		ug/L			07/18/17 07:56	1
Chloromethane	ND		2.0		ug/L			07/18/17 07:56	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 07:56	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 07:56	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 07:56	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/18/17 07:56	1
Ethyl ether	ND		1.0		ug/L			07/18/17 07:56	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 07:56	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 07:56	1
Isopropyl ether	ND		10		ug/L			07/18/17 07:56	1
Isopropylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/18/17 07:56	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 07:56	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 07:56	1
Naphthalene	ND		5.0		ug/L			07/18/17 07:56	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
o-Xylene	ND		1.0		ug/L			07/18/17 07:56	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
Styrene	ND		1.0		ug/L			07/18/17 07:56	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 07:56	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 07:56	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 07:56	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 07:56	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 07:56	1
Toluene	ND		1.0		ug/L			07/18/17 07:56	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-120816-7**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

**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			07/18/17 07:56	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 07:56	1
Trichloroethene	ND		1.0		ug/L			07/18/17 07:56	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 07:56	1
Vinyl chloride	ND		1.0		ug/L			07/18/17 07:56	1
Dibromomethane	ND		1.0		ug/L			07/18/17 07:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		07/18/17 07:56	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		07/18/17 07:56	1
4-Bromofluorobenzene (Surr)	95		70 - 130		07/18/17 07:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Surrogate Summary

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

TestAmerica Job ID: 480-120816-1

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

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL	12DCE	BFB
		(70-130)	(70-130)	(70-130)
480-120816-1	MW-267S-20170710	102	100	98
480-120816-2	MW-268S-20170710	101	101	96
480-120816-3	MW-268M-20170710	102	101	98
480-120816-4	REW-6-20170710	99	103	97
480-120816-5	REW-11-20170710	98	101	94
480-120816-6	DUP-20170710	100	102	96
480-120816-7	TRIP BLANK	100	103	95
LCS 480-367338/5	Lab Control Sample	98	101	97
LCS 480-367425/26	Lab Control Sample	99	101	96
LCSD 480-367338/9	Lab Control Sample Dup	99	97	96
LCSD 480-367425/24	Lab Control Sample Dup	100	97	100
MB 480-367338/7	Method Blank	99	99	92
MB 480-367425/7	Method Blank	99	99	96

### 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: 480-120816-1

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

Lab Sample ID: MB 480-367338/7

Matrix: Water

Analysis Batch: 367338

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			07/18/17 00:09	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 00:09	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 00:09	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 00:09	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 00:09	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 00:09	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 00:09	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 00:09	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 00:09	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 00:09	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 00:09	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 00:09	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 00:09	1
1,4-Dioxane	ND		50		ug/L			07/18/17 00:09	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 00:09	1
2-Butanone (MEK)	ND		10		ug/L			07/18/17 00:09	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 00:09	1
2-Hexanone	ND		10		ug/L			07/18/17 00:09	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 00:09	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 00:09	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 00:09	1
Acetone	ND		50		ug/L			07/18/17 00:09	1
Benzene	ND		1.0		ug/L			07/18/17 00:09	1
Bromobenzene	ND		1.0		ug/L			07/18/17 00:09	1
Bromoform	ND		1.0		ug/L			07/18/17 00:09	1
Bromomethane	ND		2.0		ug/L			07/18/17 00:09	1
Carbon disulfide	ND		10		ug/L			07/18/17 00:09	1
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 00:09	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 00:09	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 00:09	1
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 00:09	1
Chloroethane	ND		2.0		ug/L			07/18/17 00:09	1
Chloroform	ND		1.0		ug/L			07/18/17 00:09	1
Chloromethane	ND		2.0		ug/L			07/18/17 00:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 00:09	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 00:09	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 00:09	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/18/17 00:09	1
Ethyl ether	ND		1.0		ug/L			07/18/17 00:09	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 00:09	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 00:09	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

**Lab Sample ID: MB 480-367338/7**

**Matrix: Water**

**Analysis Batch: 367338**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		10		ug/L			07/18/17 00:09	1
Isopropylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/18/17 00:09	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 00:09	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 00:09	1
Naphthalene	ND		5.0		ug/L			07/18/17 00:09	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
o-Xylene	ND		1.0		ug/L			07/18/17 00:09	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
Styrene	ND		1.0		ug/L			07/18/17 00:09	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 00:09	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 00:09	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 00:09	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 00:09	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 00:09	1
Toluene	ND		1.0		ug/L			07/18/17 00:09	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 00:09	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 00:09	1
Trichloroethene	ND		1.0		ug/L			07/18/17 00:09	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 00:09	1
Vinyl chloride	ND		1.0		ug/L			07/18/17 00:09	1
Dibromomethane	ND		1.0		ug/L			07/18/17 00:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		07/18/17 00:09	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		07/18/17 00:09	1
4-Bromofluorobenzene (Surr)	92		70 - 130		07/18/17 00:09	1

**Lab Sample ID: LCS 480-367338/5**

**Matrix: Water**

**Analysis Batch: 367338**

**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	22.3		ug/L		89	70 - 130
1,1,1-Trichloroethane	25.0	20.4		ug/L		82	70 - 130
1,1,2,2-Tetrachloroethane	25.0	23.6		ug/L		95	70 - 130
1,1,2-Trichloroethane	25.0	22.4		ug/L		90	70 - 130
1,1-Dichloroethane	25.0	21.0		ug/L		84	70 - 130
1,1-Dichloroethene	25.0	19.9		ug/L		80	70 - 130
1,1-Dichloropropene	25.0	20.3		ug/L		81	70 - 130
1,2,3-Trichlorobenzene	25.0	23.8		ug/L		95	70 - 130
1,2,3-Trichloropropane	25.0	24.7		ug/L		99	70 - 130
1,2,4-Trichlorobenzene	25.0	23.1		ug/L		93	70 - 130
1,2,4-Trimethylbenzene	25.0	22.7		ug/L		91	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	22.6		ug/L		90	70 - 130
1,2-Dichlorobenzene	25.0	23.5		ug/L		94	70 - 130
1,2-Dichloroethane	25.0	21.5		ug/L		86	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

Lab Sample ID: LCS 480-367338/5

Matrix: Water

Analysis Batch: 367338

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	21.5		ug/L		86	70 - 130
1,3,5-Trimethylbenzene	25.0	23.0		ug/L		92	70 - 130
1,3-Dichlorobenzene	25.0	23.1		ug/L		92	70 - 130
1,3-Dichloropropane	25.0	22.7		ug/L		91	70 - 130
1,4-Dichlorobenzene	25.0	22.9		ug/L		92	70 - 130
1,4-Dioxane	500	464		ug/L		93	70 - 130
2,2-Dichloropropane	25.0	20.8		ug/L		83	70 - 130
2-Butanone (MEK)	125	205	*	ug/L		164	70 - 130
2-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130
2-Hexanone	125	168	*	ug/L		134	70 - 130
4-Chlorotoluene	25.0	23.7		ug/L		95	70 - 130
4-Isopropyltoluene	25.0	22.8		ug/L		91	70 - 130
4-Methyl-2-pentanone (MIBK)	125	114		ug/L		91	70 - 130
Acetone	125	112		ug/L		90	70 - 130
Benzene	25.0	20.7		ug/L		83	70 - 130
Bromobenzene	25.0	23.2		ug/L		93	70 - 130
Bromoform	25.0	22.9		ug/L		92	70 - 130
Bromomethane	25.0	20.6		ug/L		82	70 - 130
Carbon disulfide	25.0	20.4		ug/L		82	70 - 130
Carbon tetrachloride	25.0	20.5		ug/L		82	70 - 130
Chlorobenzene	25.0	22.1		ug/L		88	70 - 130
Chlorobromomethane	25.0	22.2		ug/L		89	70 - 130
Chlorodibromomethane	25.0	22.3		ug/L		89	70 - 130
Chloroethane	25.0	20.3		ug/L		81	70 - 130
Chloroform	25.0	20.8		ug/L		83	70 - 130
Chloromethane	25.0	19.0		ug/L		76	70 - 130
cis-1,2-Dichloroethene	25.0	20.8		ug/L		83	70 - 130
cis-1,3-Dichloropropene	25.0	21.6		ug/L		86	70 - 130
Dichlorobromomethane	25.0	21.1		ug/L		84	70 - 130
Dichlorodifluoromethane	25.0	19.8		ug/L		79	70 - 130
Ethyl ether	25.0	21.6		ug/L		87	70 - 130
Ethylbenzene	25.0	21.6		ug/L		86	70 - 130
Ethylene Dibromide	25.0	22.5		ug/L		90	70 - 130
Hexachlorobutadiene	25.0	21.5		ug/L		86	70 - 130
Isopropyl ether	25.0	23.6		ug/L		94	70 - 130
Isopropylbenzene	25.0	22.3		ug/L		89	70 - 130
Methyl tert-butyl ether	25.0	21.5		ug/L		86	70 - 130
Methylene Chloride	25.0	21.6		ug/L		87	70 - 130
m-Xylene & p-Xylene	25.0	21.8		ug/L		87	70 - 130
Naphthalene	25.0	24.2		ug/L		97	70 - 130
n-Butylbenzene	25.0	23.1		ug/L		92	70 - 130
N-Propylbenzene	25.0	22.9		ug/L		92	70 - 130
o-Xylene	25.0	21.9		ug/L		88	70 - 130
sec-Butylbenzene	25.0	22.3		ug/L		89	70 - 130
Styrene	25.0	22.0		ug/L		88	70 - 130
Tert-amyl methyl ether	25.0	24.5		ug/L		98	70 - 130
Tert-butyl ethyl ether	25.0	23.6		ug/L		94	70 - 130
tert-Butylbenzene	25.0	21.8		ug/L		87	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

**Lab Sample ID: LCS 480-367338/5**

**Matrix: Water**

**Analysis Batch: 367338**

**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	25.3		ug/L		101	70 - 130
Tetrahydrofuran	50.0	41.0		ug/L		82	70 - 130
Toluene	25.0	21.7		ug/L		87	70 - 130
trans-1,2-Dichloroethene	25.0	19.9		ug/L		80	70 - 130
trans-1,3-Dichloropropene	25.0	22.4		ug/L		90	70 - 130
Trichloroethene	25.0	20.8		ug/L		83	70 - 130
Trichlorofluoromethane	25.0	20.1		ug/L		80	70 - 130
Vinyl chloride	25.0	19.6		ug/L		78	70 - 130
Dibromomethane	25.0	21.9		ug/L		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		70 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130

**Lab Sample ID: LCSD 480-367338/9**

**Matrix: Water**

**Analysis Batch: 367338**

**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	22.9		ug/L		92	70 - 130	3	20
1,1,1-Trichloroethane	25.0	20.7		ug/L		83	70 - 130	2	20
1,1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	70 - 130	2	20
1,1,1,2-Trichloroethane	25.0	23.4		ug/L		93	70 - 130	4	20
1,1-Dichloroethane	25.0	21.5		ug/L		86	70 - 130	2	20
1,1-Dichloroethene	25.0	20.5		ug/L		82	70 - 130	3	20
1,1-Dichloropropene	25.0	21.1		ug/L		84	70 - 130	4	20
1,2,3-Trichlorobenzene	25.0	23.9		ug/L		95	70 - 130	0	20
1,2,3-Trichloropropane	25.0	24.6		ug/L		98	70 - 130	0	20
1,2,4-Trichlorobenzene	25.0	23.5		ug/L		94	70 - 130	1	20
1,2,4-Trimethylbenzene	25.0	23.5		ug/L		94	70 - 130	3	20
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		92	70 - 130	1	20
1,2-Dichlorobenzene	25.0	23.7		ug/L		95	70 - 130	1	20
1,2-Dichloroethane	25.0	21.3		ug/L		85	70 - 130	1	20
1,2-Dichloropropane	25.0	21.8		ug/L		87	70 - 130	1	20
1,3,5-Trimethylbenzene	25.0	23.8		ug/L		95	70 - 130	3	20
1,3-Dichlorobenzene	25.0	23.8		ug/L		95	70 - 130	3	20
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130	4	20
1,4-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130	2	20
1,4-Dioxane	500	496		ug/L		99	70 - 130	7	20
2,2-Dichloropropane	25.0	21.3		ug/L		85	70 - 130	3	20
2-Butanone (MEK)	125	200	*	ug/L		160	70 - 130	2	20
2-Chlorotoluene	25.0	25.4		ug/L		101	70 - 130	4	20
2-Hexanone	125	173	*	ug/L		139	70 - 130	4	20
4-Chlorotoluene	25.0	24.2		ug/L		97	70 - 130	2	20
4-Isopropyltoluene	25.0	24.1		ug/L		97	70 - 130	6	20
4-Methyl-2-pentanone (MIBK)	125	117		ug/L		94	70 - 130	3	20
Acetone	125	109		ug/L		87	70 - 130	2	20

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

**Lab Sample ID: LCSD 480-367338/9**

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

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 367338**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	21.0		ug/L		84	70 - 130	1	20
Bromobenzene	25.0	23.2		ug/L		93	70 - 130	0	20
Bromoform	25.0	24.1		ug/L		97	70 - 130	5	20
Bromomethane	25.0	21.1		ug/L		85	70 - 130	3	20
Carbon disulfide	25.0	21.4		ug/L		86	70 - 130	5	20
Carbon tetrachloride	25.0	21.1		ug/L		84	70 - 130	3	20
Chlorobenzene	25.0	23.3		ug/L		93	70 - 130	5	20
Chlorobromomethane	25.0	21.2		ug/L		85	70 - 130	5	20
Chlorodibromomethane	25.0	23.3		ug/L		93	70 - 130	5	20
Chloroethane	25.0	21.4		ug/L		85	70 - 130	5	20
Chloroform	25.0	21.0		ug/L		84	70 - 130	1	20
Chloromethane	25.0	20.3		ug/L		81	70 - 130	7	20
cis-1,2-Dichloroethene	25.0	21.2		ug/L		85	70 - 130	2	20
cis-1,3-Dichloropropene	25.0	21.6		ug/L		86	70 - 130	0	20
Dichlorobromomethane	25.0	21.1		ug/L		84	70 - 130	0	20
Dichlorodifluoromethane	25.0	21.0		ug/L		84	70 - 130	6	20
Ethyl ether	25.0	21.7		ug/L		87	70 - 130	0	20
Ethylbenzene	25.0	22.9		ug/L		92	70 - 130	6	20
Ethylene Dibromide	25.0	23.5		ug/L		94	70 - 130	4	20
Hexachlorobutadiene	25.0	22.0		ug/L		88	70 - 130	2	20
Isopropyl ether	25.0	23.2		ug/L		93	70 - 130	2	20
Isopropylbenzene	25.0	23.5		ug/L		94	70 - 130	5	20
Methyl tert-butyl ether	25.0	21.4		ug/L		86	70 - 130	0	20
Methylene Chloride	25.0	21.5		ug/L		86	70 - 130	1	20
m-Xylene & p-Xylene	25.0	23.2		ug/L		93	70 - 130	6	20
Naphthalene	25.0	24.7		ug/L		99	70 - 130	2	20
n-Butylbenzene	25.0	24.0		ug/L		96	70 - 130	4	20
N-Propylbenzene	25.0	24.1		ug/L		96	70 - 130	5	20
o-Xylene	25.0	23.4		ug/L		93	70 - 130	6	20
sec-Butylbenzene	25.0	23.6		ug/L		94	70 - 130	6	20
Styrene	25.0	23.1		ug/L		92	70 - 130	5	20
Tert-amyl methyl ether	25.0	24.4		ug/L		98	70 - 130	0	20
Tert-butyl ethyl ether	25.0	23.3		ug/L		93	70 - 130	1	20
tert-Butylbenzene	25.0	22.5		ug/L		90	70 - 130	3	20
Tetrachloroethene	25.0	28.2		ug/L		113	70 - 130	11	20
Tetrahydrofuran	50.0	41.0		ug/L		82	70 - 130	0	20
Toluene	25.0	23.2		ug/L		93	70 - 130	6	20
trans-1,2-Dichloroethene	25.0	20.4		ug/L		82	70 - 130	2	20
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	70 - 130	5	20
Trichloroethene	25.0	21.0		ug/L		84	70 - 130	1	20
Trichlorofluoromethane	25.0	21.2		ug/L		85	70 - 130	5	20
Vinyl chloride	25.0	20.7		ug/L		83	70 - 130	5	20
Dibromomethane	25.0	21.7		ug/L		87	70 - 130	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	97		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: 480-120816-1

Lab Sample ID: MB 480-367425/7  
Matrix: Water  
Analysis Batch: 367425

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			07/18/17 13:36	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 13:36	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 13:36	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 13:36	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,4-Dioxane	ND		50		ug/L			07/18/17 13:36	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
2-Butanone (MEK)	ND		10		ug/L			07/18/17 13:36	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 13:36	1
2-Hexanone	ND		10		ug/L			07/18/17 13:36	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 13:36	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 13:36	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 13:36	1
Acetone	ND		50		ug/L			07/18/17 13:36	1
Benzene	ND		1.0		ug/L			07/18/17 13:36	1
Bromobenzene	ND		1.0		ug/L			07/18/17 13:36	1
Bromoform	ND		1.0		ug/L			07/18/17 13:36	1
Bromomethane	ND		2.0		ug/L			07/18/17 13:36	1
Carbon disulfide	ND		10		ug/L			07/18/17 13:36	1
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 13:36	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 13:36	1
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 13:36	1
Chloroethane	ND		2.0		ug/L			07/18/17 13:36	1
Chloroform	ND		1.0		ug/L			07/18/17 13:36	1
Chloromethane	ND		2.0		ug/L			07/18/17 13:36	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
cis-1,3-Dichloropropane	ND		0.40		ug/L			07/18/17 13:36	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 13:36	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/18/17 13:36	1
Ethyl ether	ND		1.0		ug/L			07/18/17 13:36	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 13:36	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 13:36	1
Isopropyl ether	ND		10		ug/L			07/18/17 13:36	1
Isopropylbenzene	ND		1.0		ug/L			07/18/17 13:36	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

**Lab Sample ID: MB 480-367425/7**  
**Matrix: Water**  
**Analysis Batch: 367425**

**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			07/18/17 13:36	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 13:36	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 13:36	1
Naphthalene	ND		5.0		ug/L			07/18/17 13:36	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
o-Xylene	ND		1.0		ug/L			07/18/17 13:36	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Styrene	ND		1.0		ug/L			07/18/17 13:36	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 13:36	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 13:36	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 13:36	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 13:36	1
Toluene	ND		1.0		ug/L			07/18/17 13:36	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 13:36	1
Trichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 13:36	1
Vinyl chloride	ND		1.0		ug/L			07/18/17 13:36	1
Dibromomethane	ND		1.0		ug/L			07/18/17 13:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		07/18/17 13:36	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		07/18/17 13:36	1
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 13:36	1

**Lab Sample ID: LCS 480-367425/26**  
**Matrix: Water**  
**Analysis Batch: 367425**

**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	23.7		ug/L		95	70 - 130
1,1,1-Trichloroethane	25.0	19.9		ug/L		79	70 - 130
1,1,1,2,2-Tetrachloroethane	25.0	24.9		ug/L		100	70 - 130
1,1,2-Trichloroethane	25.0	23.4		ug/L		94	70 - 130
1,1-Dichloroethane	25.0	21.4		ug/L		86	70 - 130
1,1-Dichloroethene	25.0	19.7		ug/L		79	70 - 130
1,1-Dichloropropene	25.0	19.9		ug/L		80	70 - 130
1,2,3-Trichlorobenzene	25.0	23.9		ug/L		96	70 - 130
1,2,3-Trichloropropane	25.0	25.1		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	25.0	23.8		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	25.0	23.4		ug/L		94	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	24.2		ug/L		97	70 - 130
1,2-Dichlorobenzene	25.0	23.9		ug/L		96	70 - 130
1,2-Dichloroethane	25.0	21.9		ug/L		87	70 - 130
1,2-Dichloropropane	25.0	21.9		ug/L		88	70 - 130
1,3,5-Trimethylbenzene	25.0	23.3		ug/L		93	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

Lab Sample ID: LCS 480-367425/26

Matrix: Water

Analysis Batch: 367425

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	24.0		ug/L		96	70 - 130
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130
1,4-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,4-Dioxane	500	471		ug/L		94	70 - 130
2,2-Dichloropropane	25.0	21.3		ug/L		85	70 - 130
2-Butanone (MEK)	125	211	*	ug/L		169	70 - 130
2-Chlorotoluene	25.0	26.1		ug/L		104	70 - 130
2-Hexanone	125	178	*	ug/L		142	70 - 130
4-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130
4-Isopropyltoluene	25.0	23.1		ug/L		92	70 - 130
4-Methyl-2-pentanone (MIBK)	125	119		ug/L		95	70 - 130
Acetone	125	122		ug/L		98	70 - 130
Benzene	25.0	20.9		ug/L		84	70 - 130
Bromobenzene	25.0	23.8		ug/L		95	70 - 130
Bromoform	25.0	24.1		ug/L		97	70 - 130
Bromomethane	25.0	21.0		ug/L		84	70 - 130
Carbon disulfide	25.0	20.1		ug/L		81	70 - 130
Carbon tetrachloride	25.0	19.9		ug/L		80	70 - 130
Chlorobenzene	25.0	23.1		ug/L		92	70 - 130
Chlorobromomethane	25.0	22.5		ug/L		90	70 - 130
Chlorodibromomethane	25.0	23.5		ug/L		94	70 - 130
Chloroethane	25.0	20.0		ug/L		80	70 - 130
Chloroform	25.0	21.3		ug/L		85	70 - 130
Chloromethane	25.0	18.9		ug/L		76	70 - 130
cis-1,2-Dichloroethene	25.0	21.2		ug/L		85	70 - 130
cis-1,3-Dichloropropene	25.0	22.1		ug/L		89	70 - 130
Dichlorobromomethane	25.0	21.8		ug/L		87	70 - 130
Dichlorodifluoromethane	25.0	17.6		ug/L		70	70 - 130
Ethyl ether	25.0	21.6		ug/L		86	70 - 130
Ethylbenzene	25.0	22.7		ug/L		91	70 - 130
Ethylene Dibromide	25.0	23.6		ug/L		94	70 - 130
Hexachlorobutadiene	25.0	20.3		ug/L		81	70 - 130
Isopropyl ether	25.0	23.3		ug/L		93	70 - 130
Isopropylbenzene	25.0	22.6		ug/L		90	70 - 130
Methyl tert-butyl ether	25.0	21.5		ug/L		86	70 - 130
Methylene Chloride	25.0	21.8		ug/L		87	70 - 130
m-Xylene & p-Xylene	25.0	22.6		ug/L		90	70 - 130
Naphthalene	25.0	24.7		ug/L		99	70 - 130
n-Butylbenzene	25.0	23.3		ug/L		93	70 - 130
N-Propylbenzene	25.0	23.2		ug/L		93	70 - 130
o-Xylene	25.0	23.2		ug/L		93	70 - 130
sec-Butylbenzene	25.0	22.4		ug/L		90	70 - 130
Styrene	25.0	23.1		ug/L		92	70 - 130
Tert-amyl methyl ether	25.0	24.4		ug/L		97	70 - 130
Tert-butyl ethyl ether	25.0	23.3		ug/L		93	70 - 130
tert-Butylbenzene	25.0	22.0		ug/L		88	70 - 130
Tetrachloroethene	25.0	22.8		ug/L		91	70 - 130
Tetrahydrofuran	50.0	42.4		ug/L		85	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

Lab Sample ID: LCS 480-367425/26

Matrix: Water

Analysis Batch: 367425

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	22.4		ug/L		90	70 - 130
trans-1,2-Dichloroethene	25.0	19.9		ug/L		80	70 - 130
trans-1,3-Dichloropropene	25.0	23.4		ug/L		94	70 - 130
Trichloroethene	25.0	21.0		ug/L		84	70 - 130
Trichlorofluoromethane	25.0	19.4		ug/L		77	70 - 130
Vinyl chloride	25.0	18.8		ug/L		75	70 - 130
Dibromomethane	25.0	22.2		ug/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 480-367425/24

Matrix: Water

Analysis Batch: 367425

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	22.9		ug/L		92	70 - 130	3	20
1,1,1-Trichloroethane	25.0	18.9		ug/L		76	70 - 130	5	20
1,1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	70 - 130	4	20
1,1,2-Trichloroethane	25.0	23.4		ug/L		93	70 - 130	0	20
1,1-Dichloroethane	25.0	20.6		ug/L		82	70 - 130	4	20
1,1-Dichloroethene	25.0	18.5		ug/L		74	70 - 130	6	20
1,1-Dichloropropene	25.0	18.8		ug/L		75	70 - 130	6	20
1,2,3-Trichlorobenzene	25.0	23.6		ug/L		94	70 - 130	2	20
1,2,3-Trichloropropane	25.0	25.1		ug/L		100	70 - 130	0	20
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		94	70 - 130	2	20
1,2,4-Trimethylbenzene	25.0	22.4		ug/L		90	70 - 130	4	20
1,2-Dibromo-3-Chloropropane	25.0	24.0		ug/L		96	70 - 130	1	20
1,2-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130	2	20
1,2-Dichloroethane	25.0	21.3		ug/L		85	70 - 130	2	20
1,2-Dichloropropane	25.0	21.2		ug/L		85	70 - 130	3	20
1,3,5-Trimethylbenzene	25.0	22.4		ug/L		90	70 - 130	4	20
1,3-Dichlorobenzene	25.0	22.9		ug/L		92	70 - 130	5	20
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130	0	20
1,4-Dichlorobenzene	25.0	22.7		ug/L		91	70 - 130	4	20
1,4-Dioxane	500	505		ug/L		101	70 - 130	7	20
2,2-Dichloropropane	25.0	20.2		ug/L		81	70 - 130	6	20
2-Butanone (MEK)	125	205	*	ug/L		164	70 - 130	3	20
2-Chlorotoluene	25.0	24.3		ug/L		97	70 - 130	7	20
2-Hexanone	125	175	*	ug/L		140	70 - 130	2	20
4-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130	3	20
4-Isopropyltoluene	25.0	22.1		ug/L		88	70 - 130	5	20
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	70 - 130	0	20
Acetone	125	115		ug/L		92	70 - 130	6	20
Benzene	25.0	20.3		ug/L		81	70 - 130	3	20
Bromobenzene	25.0	23.0		ug/L		92	70 - 130	3	20

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

Lab Sample ID: LCSD 480-367425/24

Matrix: Water

Analysis Batch: 367425

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	24.1		ug/L		96	70 - 130	0	20
Bromomethane	25.0	20.4		ug/L		82	70 - 130	3	20
Carbon disulfide	25.0	19.3		ug/L		77	70 - 130	4	20
Carbon tetrachloride	25.0	18.7		ug/L		75	70 - 130	6	20
Chlorobenzene	25.0	22.8		ug/L		91	70 - 130	2	20
Chlorobromomethane	25.0	21.6		ug/L		87	70 - 130	4	20
Chlorodibromomethane	25.0	23.4		ug/L		94	70 - 130	0	20
Chloroethane	25.0	19.0		ug/L		76	70 - 130	5	20
Chloroform	25.0	20.8		ug/L		83	70 - 130	3	20
Chloromethane	25.0	17.7		ug/L		71	70 - 130	6	20
cis-1,2-Dichloroethene	25.0	20.5		ug/L		82	70 - 130	3	20
cis-1,3-Dichloropropene	25.0	21.1		ug/L		84	70 - 130	5	20
Dichlorobromomethane	25.0	21.0		ug/L		84	70 - 130	4	20
Dichlorodifluoromethane	25.0	16.6	*	ug/L		66	70 - 130	6	20
Ethyl ether	25.0	21.3		ug/L		85	70 - 130	1	20
Ethylbenzene	25.0	21.9		ug/L		88	70 - 130	3	20
Ethylene Dibromide	25.0	24.0		ug/L		96	70 - 130	2	20
Hexachlorobutadiene	25.0	19.7		ug/L		79	70 - 130	3	20
Isopropyl ether	25.0	22.4		ug/L		90	70 - 130	4	20
Isopropylbenzene	25.0	21.7		ug/L		87	70 - 130	4	20
Methyl tert-butyl ether	25.0	21.1		ug/L		84	70 - 130	2	20
Methylene Chloride	25.0	21.1		ug/L		84	70 - 130	3	20
m-Xylene & p-Xylene	25.0	22.0		ug/L		88	70 - 130	3	20
Naphthalene	25.0	24.2		ug/L		97	70 - 130	2	20
n-Butylbenzene	25.0	22.1		ug/L		88	70 - 130	5	20
N-Propylbenzene	25.0	22.3		ug/L		89	70 - 130	4	20
o-Xylene	25.0	22.6		ug/L		91	70 - 130	2	20
sec-Butylbenzene	25.0	21.3		ug/L		85	70 - 130	5	20
Styrene	25.0	22.3		ug/L		89	70 - 130	4	20
Tert-amyl methyl ether	25.0	23.7		ug/L		95	70 - 130	3	20
Tert-butyl ethyl ether	25.0	22.6		ug/L		90	70 - 130	3	20
tert-Butylbenzene	25.0	20.8		ug/L		83	70 - 130	6	20
Tetrachloroethene	25.0	23.4		ug/L		93	70 - 130	2	20
Tetrahydrofuran	50.0	41.5		ug/L		83	70 - 130	2	20
Toluene	25.0	22.0		ug/L		88	70 - 130	2	20
trans-1,2-Dichloroethene	25.0	19.3		ug/L		77	70 - 130	3	20
trans-1,3-Dichloropropene	25.0	23.4		ug/L		93	70 - 130	0	20
Trichloroethene	25.0	19.9		ug/L		80	70 - 130	5	20
Trichlorofluoromethane	25.0	17.8		ug/L		71	70 - 130	9	20
Vinyl chloride	25.0	17.5		ug/L		70	70 - 130	7	20
Dibromomethane	25.0	22.0		ug/L		88	70 - 130	1	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		70 - 130
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

## Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-366309/1-A  
Matrix: Water  
Analysis Batch: 366518

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 366309

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		07/11/17 10:47	07/12/17 00:28	1

Lab Sample ID: LCS 480-366309/2-A  
Matrix: Water  
Analysis Batch: 366518

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 366309

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	9.84		mg/L		98	80 - 120

Lab Sample ID: LCSD 480-366309/3-A  
Matrix: Water  
Analysis Batch: 366518

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 366309

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Iron	10.0	9.75		mg/L		98	80 - 120	1	20

Lab Sample ID: 480-120816-2 MS  
Matrix: Water  
Analysis Batch: 366518

Client Sample ID: MW-268S-20170710  
Prep Type: Total/NA  
Prep Batch: 366309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	2.7		10.0	12.9		mg/L		102	75 - 125

Lab Sample ID: 480-120816-2 MSD  
Matrix: Water  
Analysis Batch: 366518

Client Sample ID: MW-268S-20170710  
Prep Type: Total/NA  
Prep Batch: 366309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Iron	2.7		10.0	12.4		mg/L		97	75 - 125	4	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-367008/28  
Matrix: Water  
Analysis Batch: 367008

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			07/14/17 18:20	1
Sulfate	ND		2.0		mg/L			07/14/17 18:20	1

Lab Sample ID: LCS 480-367008/27  
Matrix: Water  
Analysis Batch: 367008

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	49.4		mg/L		99	90 - 110
Sulfate	50.0	52.1		mg/L		104	90 - 110

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

**Lab Sample ID: 480-120816-2 MS**

**Matrix: Water**

**Analysis Batch: 367008**

**Client Sample ID: MW-268S-20170710**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16		50.0	64.5		mg/L		96	81 - 120
Sulfate	32		50.0	82.3		mg/L		101	80 - 120

**Lab Sample ID: 480-120816-2 MSD**

**Matrix: Water**

**Analysis Batch: 367008**

**Client Sample ID: MW-268S-20170710**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	16		50.0	64.4		mg/L		96	81 - 120	0	20
Sulfate	32		50.0	81.1		mg/L		99	80 - 120	1	20

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 480-366676/2-A**

**Matrix: Water**

**Analysis Batch: 366805**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 366676**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20		mg/L		07/12/17 19:57	07/13/17 10:48	1

**Lab Sample ID: LCS 480-366676/1-A**

**Matrix: Water**

**Analysis Batch: 366805**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 366676**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.09		mg/L		109	90 - 110

**Lab Sample ID: 480-120816-3 MS**

**Matrix: Water**

**Analysis Batch: 366805**

**Client Sample ID: MW-268M-20170710**

**Prep Type: Total/NA**

**Prep Batch: 366676**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND		0.500	0.627		mg/L		93	90 - 110

**Lab Sample ID: 480-120816-2 DU**

**Matrix: Water**

**Analysis Batch: 366805**

**Client Sample ID: MW-268S-20170710**

**Prep Type: Total/NA**

**Prep Batch: 366676**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	ND		ND		mg/L		NC	20

## Method: 9040C - pH

**Lab Sample ID: 480-120816-2 DU**

**Matrix: Water**

**Analysis Batch: 366439**

**Client Sample ID: MW-268S-20170710**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.8	HF	9.8		SU		0.4	5

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

## Method: 9040C - pH (Continued)

**Lab Sample ID: 480-120816-2 DU**  
**Matrix: Water**  
**Analysis Batch: 366439**

**Client Sample ID: MW-268S-20170710**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Temperature	21.5	HF	21.4		Degrees C		0.05	10

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

**Lab Sample ID: MB 480-367335/4**  
**Matrix: Water**  
**Analysis Batch: 367335**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
TOC Result 1	ND		1.0		mg/L			07/16/17 18:19	1
TOC Result 2	ND		1.0		mg/L			07/16/17 18:19	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/16/17 18:19	1

**Lab Sample ID: LCS 480-367335/5**  
**Matrix: Water**  
**Analysis Batch: 367335**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 2	60.0	63.8		mg/L		106	90 - 110
Total Organic Carbon - Duplicates	60.0	62.7		mg/L		105	90 - 110

**Lab Sample ID: 480-120816-2 DU**  
**Matrix: Water**  
**Analysis Batch: 367335**

**Client Sample ID: MW-268S-20170710**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
TOC Result 1	97		88.4		mg/L		9	20
TOC Result 2	97		89.9		mg/L		8	20
Total Organic Carbon - Duplicates	97		89.1		mg/L		9	20

**Lab Sample ID: MB 480-367394/4**  
**Matrix: Water**  
**Analysis Batch: 367394**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
TOC Result 1	ND		1.0		mg/L			07/17/17 19:20	1
TOC Result 2	ND		1.0		mg/L			07/17/17 19:20	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/17/17 19:20	1

**Lab Sample ID: LCS 480-367394/5**  
**Matrix: Water**  
**Analysis Batch: 367394**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 2	60.0	63.1		mg/L		105	90 - 110

TestAmerica Buffalo



# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

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

**Lab Sample ID: LCS 480-367394/5**  
**Matrix: Water**  
**Analysis Batch: 367394**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	60.0	62.6		mg/L		104	90 - 110

**Lab Sample ID: MB 480-367555/4**  
**Matrix: Water**  
**Analysis Batch: 367555**

**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			07/18/17 11:00	1
TOC Result 2	ND		1.0		mg/L			07/18/17 11:00	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/18/17 11:00	1

**Lab Sample ID: LCS 480-367555/5**  
**Matrix: Water**  
**Analysis Batch: 367555**

**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	63.8		mg/L		106	90 - 110
TOC Result 2	60.0	63.9		mg/L		107	90 - 110
Total Organic Carbon - Duplicates	60.0	63.9		mg/L		106	90 - 110

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 480-366445/7**  
**Matrix: Water**  
**Analysis Batch: 366445**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			07/11/17 17:51	1

**Lab Sample ID: LCS 480-366445/8**  
**Matrix: Water**  
**Analysis Batch: 366445**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	95.6		mg/L		96	90 - 110

## Method: SM 4500 P E - Orthophosphate

**Lab Sample ID: MB 480-366403/3**  
**Matrix: Water**  
**Analysis Batch: 366403**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ortho-Phosphate	ND		0.020		mg/L			07/11/17 14:04	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120816-1

## Method: SM 4500 P E - Orthophosphate (Continued)

Lab Sample ID: LCS 480-366403/4  
Matrix: Water  
Analysis Batch: 366403

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
ortho-Phosphate	0.200	0.219		mg/L		110	90 - 110

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Association Summary

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

TestAmerica Job ID: 480-120816-1

## GC/MS VOA

### Analysis Batch: 367338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	8260C	
480-120816-2	MW-268S-20170710	Total/NA	Water	8260C	
480-120816-4	REW-6-20170710	Total/NA	Water	8260C	
480-120816-5	REW-11-20170710	Total/NA	Water	8260C	
480-120816-6	DUP-20170710	Total/NA	Water	8260C	
480-120816-7	TRIP BLANK	Total/NA	Water	8260C	
MB 480-367338/7	Method Blank	Total/NA	Water	8260C	
LCS 480-367338/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-367338/9	Lab Control Sample Dup	Total/NA	Water	8260C	

### Analysis Batch: 367425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-3	MW-268M-20170710	Total/NA	Water	8260C	
MB 480-367425/7	Method Blank	Total/NA	Water	8260C	
LCS 480-367425/26	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-367425/24	Lab Control Sample Dup	Total/NA	Water	8260C	

## Metals

### Prep Batch: 366309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	3005A	
480-120816-2	MW-268S-20170710	Total/NA	Water	3005A	
480-120816-3	MW-268M-20170710	Total/NA	Water	3005A	
480-120816-4	REW-6-20170710	Total/NA	Water	3005A	
480-120816-5	REW-11-20170710	Total/NA	Water	3005A	
MB 480-366309/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-366309/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-366309/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	
480-120816-2 MS	MW-268S-20170710	Total/NA	Water	3005A	
480-120816-2 MSD	MW-268S-20170710	Total/NA	Water	3005A	

### Analysis Batch: 366518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	6010	366309
480-120816-2	MW-268S-20170710	Total/NA	Water	6010	366309
480-120816-3	MW-268M-20170710	Total/NA	Water	6010	366309
480-120816-4	REW-6-20170710	Total/NA	Water	6010	366309
480-120816-5	REW-11-20170710	Total/NA	Water	6010	366309
MB 480-366309/1-A	Method Blank	Total/NA	Water	6010	366309
LCS 480-366309/2-A	Lab Control Sample	Total/NA	Water	6010	366309
LCSD 480-366309/3-A	Lab Control Sample Dup	Total/NA	Water	6010	366309
480-120816-2 MS	MW-268S-20170710	Total/NA	Water	6010	366309
480-120816-2 MSD	MW-268S-20170710	Total/NA	Water	6010	366309

## General Chemistry

### Analysis Batch: 366403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	SM 4500 P E	

TestAmerica Buffalo

# QC Association Summary

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

TestAmerica Job ID: 480-120816-1

## General Chemistry (Continued)

### Analysis Batch: 366403 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-2	MW-268S-20170710	Total/NA	Water	SM 4500 P E	
480-120816-3	MW-268M-20170710	Total/NA	Water	SM 4500 P E	
480-120816-4	REW-6-20170710	Total/NA	Water	SM 4500 P E	
480-120816-5	REW-11-20170710	Total/NA	Water	SM 4500 P E	
MB 480-366403/3	Method Blank	Total/NA	Water	SM 4500 P E	
LCS 480-366403/4	Lab Control Sample	Total/NA	Water	SM 4500 P E	

### Analysis Batch: 366439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	9040C	
480-120816-2	MW-268S-20170710	Total/NA	Water	9040C	
480-120816-3	MW-268M-20170710	Total/NA	Water	9040C	
480-120816-4	REW-6-20170710	Total/NA	Water	9040C	
480-120816-5	REW-11-20170710	Total/NA	Water	9040C	
LCS 480-366439/1	Lab Control Sample	Total/NA	Water	9040C	
480-120816-2 DU	MW-268S-20170710	Total/NA	Water	9040C	

### Analysis Batch: 366445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	SM 2320B	
480-120816-2	MW-268S-20170710	Total/NA	Water	SM 2320B	
480-120816-3	MW-268M-20170710	Total/NA	Water	SM 2320B	
480-120816-4	REW-6-20170710	Total/NA	Water	SM 2320B	
480-120816-5	REW-11-20170710	Total/NA	Water	SM 2320B	
MB 480-366445/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-366445/8	Lab Control Sample	Total/NA	Water	SM 2320B	

### Analysis Batch: 366457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	353.2	
480-120816-2	MW-268S-20170710	Total/NA	Water	353.2	
480-120816-3	MW-268M-20170710	Total/NA	Water	353.2	
480-120816-4	REW-6-20170710	Total/NA	Water	353.2	
480-120816-5	REW-11-20170710	Total/NA	Water	353.2	

### Prep Batch: 366676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	Distill/Ammonia	
480-120816-2	MW-268S-20170710	Total/NA	Water	Distill/Ammonia	
480-120816-3	MW-268M-20170710	Total/NA	Water	Distill/Ammonia	
480-120816-4	REW-6-20170710	Total/NA	Water	Distill/Ammonia	
480-120816-5	REW-11-20170710	Total/NA	Water	Distill/Ammonia	
MB 480-366676/2-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 480-366676/1-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
480-120816-3 MS	MW-268M-20170710	Total/NA	Water	Distill/Ammonia	
480-120816-2 DU	MW-268S-20170710	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 366805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	350.1	366676
480-120816-2	MW-268S-20170710	Total/NA	Water	350.1	366676

TestAmerica Buffalo

# QC Association Summary

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

TestAmerica Job ID: 480-120816-1

## General Chemistry (Continued)

### Analysis Batch: 366805 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-3	MW-268M-20170710	Total/NA	Water	350.1	366676
480-120816-4	REW-6-20170710	Total/NA	Water	350.1	366676
480-120816-5	REW-11-20170710	Total/NA	Water	350.1	366676
MB 480-366676/2-A	Method Blank	Total/NA	Water	350.1	366676
LCS 480-366676/1-A	Lab Control Sample	Total/NA	Water	350.1	366676
480-120816-3 MS	MW-268M-20170710	Total/NA	Water	350.1	366676
480-120816-2 DU	MW-268S-20170710	Total/NA	Water	350.1	366676

### Analysis Batch: 367008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	300.0	
480-120816-2	MW-268S-20170710	Total/NA	Water	300.0	
480-120816-3	MW-268M-20170710	Total/NA	Water	300.0	
480-120816-4	REW-6-20170710	Total/NA	Water	300.0	
480-120816-5	REW-11-20170710	Total/NA	Water	300.0	
MB 480-367008/28	Method Blank	Total/NA	Water	300.0	
LCS 480-367008/27	Lab Control Sample	Total/NA	Water	300.0	
480-120816-2 MS	MW-268S-20170710	Total/NA	Water	300.0	
480-120816-2 MSD	MW-268S-20170710	Total/NA	Water	300.0	

### Analysis Batch: 367335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-2	MW-268S-20170710	Total/NA	Water	9060A	
MB 480-367335/4	Method Blank	Total/NA	Water	9060A	
LCS 480-367335/5	Lab Control Sample	Total/NA	Water	9060A	
480-120816-2 DU	MW-268S-20170710	Total/NA	Water	9060A	

### Analysis Batch: 367394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-1	MW-267S-20170710	Total/NA	Water	9060A	
480-120816-3	MW-268M-20170710	Total/NA	Water	9060A	
480-120816-5	REW-11-20170710	Total/NA	Water	9060A	
MB 480-367394/4	Method Blank	Total/NA	Water	9060A	
LCS 480-367394/5	Lab Control Sample	Total/NA	Water	9060A	

### Analysis Batch: 367555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120816-4	REW-6-20170710	Total/NA	Water	9060A	
MB 480-367555/4	Method Blank	Total/NA	Water	9060A	
LCS 480-367555/5	Lab Control Sample	Total/NA	Water	9060A	

# Lab Chronicle

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-267S-20170710**

**Lab Sample ID: 480-120816-1**

**Date Collected: 07/10/17 12:10**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	367338	07/18/17 05:26	JAS	TAL BUF
Total/NA	Prep	3005A			366309	07/11/17 10:47	MJW	TAL BUF
Total/NA	Analysis	6010		1	366518	07/12/17 00:42	LMH	TAL BUF
Total/NA	Analysis	300.0		5	367008	07/14/17 19:33	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366676	07/12/17 19:57	KRT	TAL BUF
Total/NA	Analysis	350.1		1	366805	07/13/17 10:53	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366457	07/11/17 21:13	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366439	07/11/17 18:25	ALZ	TAL BUF
Total/NA	Analysis	9060A		20	367394	07/17/17 21:00	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	366445	07/11/17 18:07	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366403	07/11/17 14:04	SSS	TAL BUF

**Client Sample ID: MW-268S-20170710**

**Lab Sample ID: 480-120816-2**

**Date Collected: 07/10/17 08:55**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	367338	07/18/17 05:51	JAS	TAL BUF
Total/NA	Prep	3005A			366309	07/11/17 10:47	MJW	TAL BUF
Total/NA	Analysis	6010		1	366518	07/12/17 00:45	LMH	TAL BUF
Total/NA	Analysis	300.0		1	367008	07/14/17 19:47	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366676	07/12/17 19:57	KRT	TAL BUF
Total/NA	Analysis	350.1		1	366805	07/13/17 10:54	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366457	07/11/17 18:11	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366439	07/11/17 18:28	ALZ	TAL BUF
Total/NA	Analysis	9060A		1	367335	07/16/17 23:26	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	366445	07/11/17 18:14	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366403	07/11/17 14:04	SSS	TAL BUF

**Client Sample ID: MW-268M-20170710**

**Lab Sample ID: 480-120816-3**

**Date Collected: 07/10/17 09:35**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	367425	07/18/17 15:19	RRS	TAL BUF
Total/NA	Prep	3005A			366309	07/11/17 10:47	MJW	TAL BUF
Total/NA	Analysis	6010		1	366518	07/12/17 01:13	LMH	TAL BUF
Total/NA	Analysis	300.0		5	367008	07/14/17 21:00	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366676	07/12/17 19:57	KRT	TAL BUF
Total/NA	Analysis	350.1		1	366805	07/13/17 10:58	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366457	07/11/17 21:14	DCB	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: MW-268M-20170710**

**Lab Sample ID: 480-120816-3**

**Date Collected: 07/10/17 09:35**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040C		1	366439	07/11/17 18:33	ALZ	TAL BUF
Total/NA	Analysis	9060A		2	367394	07/17/17 21:50	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	366445	07/11/17 18:22	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366403	07/11/17 14:04	SSS	TAL BUF

**Client Sample ID: REW-6-20170710**

**Lab Sample ID: 480-120816-4**

**Date Collected: 07/10/17 11:30**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	367338	07/18/17 06:41	JAS	TAL BUF
Total/NA	Prep	3005A			366309	07/11/17 10:47	MJW	TAL BUF
Total/NA	Analysis	6010		1	366518	07/12/17 01:16	LMH	TAL BUF
Total/NA	Analysis	300.0		10	367008	07/14/17 21:15	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366676	07/12/17 19:57	KRT	TAL BUF
Total/NA	Analysis	350.1		1	366805	07/13/17 10:59	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366457	07/11/17 18:16	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366439	07/11/17 18:35	ALZ	TAL BUF
Total/NA	Analysis	9060A		80	367555	07/18/17 11:53	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	366445	07/11/17 18:31	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366403	07/11/17 14:04	SSS	TAL BUF

**Client Sample ID: REW-11-20170710**

**Lab Sample ID: 480-120816-5**

**Date Collected: 07/10/17 10:25**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	367338	07/18/17 07:06	JAS	TAL BUF
Total/NA	Prep	3005A			366309	07/11/17 10:47	MJW	TAL BUF
Total/NA	Analysis	6010		1	366518	07/12/17 01:20	LMH	TAL BUF
Total/NA	Analysis	300.0		5	367008	07/14/17 21:29	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366676	07/12/17 19:57	KRT	TAL BUF
Total/NA	Analysis	350.1		1	366805	07/13/17 11:00	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366457	07/11/17 21:15	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366439	07/11/17 18:38	ALZ	TAL BUF
Total/NA	Analysis	9060A		20	367394	07/17/17 23:32	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	366445	07/11/17 18:40	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366403	07/11/17 14:04	SSS	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-120816-1

**Client Sample ID: DUP-20170710**

**Lab Sample ID: 480-120816-6**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	367338	07/18/17 07:31	JAS	TAL BUF

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-120816-7**

**Date Collected: 07/10/17 00:00**

**Matrix: Water**

**Date Received: 07/11/17 02:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	367338	07/18/17 07:56	JAS	TAL BUF

**Laboratory References:**

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

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# Accreditation/Certification Summary

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

TestAmerica Job ID: 480-120816-1

## Laboratory: TestAmerica Buffalo

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

Authority	Program	EPA Region	Identification Number	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	09-30-18
Florida	NELAP	4	E87672	06-30-18
Georgia	State Program	4	10026 (NY)	03-31-18
Georgia	State Program	4	956	03-31-18
Illinois	NELAP	5	200003	09-30-17
Iowa	State Program	7	374	03-01-19
Kansas	NELAP	7	E-10187	01-31-18
Kentucky (DW)	State Program	4	90029	12-31-17
Kentucky (UST)	State Program	4	30	03-31-18
Kentucky (WW)	State Program	4	90029	12-31-17
Louisiana	NELAP	6	02031	06-30-18
Maine	State Program	1	NY00044	12-04-18
Maryland	State Program	3	294	03-31-18
Massachusetts	State Program	1	M-NY044	06-30-18
Michigan	State Program	5	9937	04-01-09 *
Minnesota	NELAP	5	036-999-337	12-31-17
New Hampshire	NELAP	1	2337	11-17-17
New Jersey	NELAP	2	NY455	06-30-18
New York	NELAP	2	10026	03-31-18
North Dakota	State Program	8	R-176	03-31-18
Oklahoma	State Program	6	9421	08-31-17
Oregon	NELAP	10	NY200003	06-09-18
Pennsylvania	NELAP	3	68-00281	07-31-17 *
Rhode Island	State Program	1	LAO00328	12-30-17
Tennessee	State Program	4	TN02970	03-31-18
Texas	NELAP	6	T104704412-15-6	07-31-17 *
USDA	Federal		P330-11-00386	11-26-17
Virginia	NELAP	3	460185	09-14-17
Washington	State Program	10	C784	02-10-18
Wisconsin	State Program	5	998310390	08-31-17

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

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

TestAmerica Job ID: 480-120816-1

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: 480-120816-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-120816-1	MW-267S-20170710	Water	07/10/17 12:10	07/11/17 02:00
480-120816-2	MW-268S-20170710	Water	07/10/17 08:55	07/11/17 02:00
480-120816-3	MW-268M-20170710	Water	07/10/17 09:35	07/11/17 02:00
480-120816-4	REW-6-20170710	Water	07/10/17 11:30	07/11/17 02:00
480-120816-5	REW-11-20170710	Water	07/10/17 10:25	07/11/17 02:00
480-120816-6	DUP-20170710	Water	07/10/17 00:00	07/11/17 02:00
480-120816-7	TRIP BLANK	Water	07/10/17 00:00	07/11/17 02:00

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## Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 480-120816-1

**Login Number: 120816**

**List Number: 1**

**Creator: Williams, Christopher S**

**List Source: TestAmerica Buffalo**

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	IESI
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	

**TestAmerica Westfield**  
501 Southampton Road  
Westfield MA 01085  
Phone: (413) 572-4000 Fax: (303) 467-7247

**TestAmerica Boston**  
240 Bear Hill Road -- Suite 104  
Waltham MA 02451  
Phone: (781) 466-6900 Fax: (781) 466-6901

**Client Information:**  
 Company: Vishi Paragon  
 Address: 25 Spring St  
 City: Waltham  
 State and Zip: MA 02081  
 Client's Phone: 508-608-0033  
 Client's Contact Email: vparagon@vishi.com  
 Client's Project Name/Number: Westfield Waltham RA-008  
 Sample Collection Site Name & Location: Waltham MA

**Sample Information:**  
 Sample Collector's Name (Please Print Neatly): D. Paragon  
 Sample Collector's Phone: 508-6404-3191  
 Lab PM: \_\_\_\_\_  
 Lab: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

**Analysis Request:**  
 Due Date Requested: 7/13/17  
 Turnaround Time (TAT) Requested (business days): 5 days  
 Quote # or Project #: RA-008  
 PO #: \_\_\_\_\_  
 WO #: \_\_\_\_\_  
 PWS ID #: \_\_\_\_\_

**Sample Identification**

Sample ID	Sample Collection Date (MM/DD/YY)	Sample Collection Time (24 Hour Clock)	Sample Type: C=Comp G=Grab	Matrix Type **	Analysis Request	Total Number of Containers (enter total for each line)	Special Instructions & Notes:
MW-2675-20170710	7/10/17	1310	C	3	860 MAP	12	CW-3
MW-2684-20170710	7/10/17	0855	C	3	9094 PH	12	Requirements
MW-268M-20170710	7/10/17	0935	C	3	350.1 NH <sub>3</sub>	12	
NEW-6-20170710	7/10/17	1130	C	3	3338B Alkalinity	12	
REW-11-20170710	7/10/17	1025	C	3	6010 MCP Total Iron	12	
DVP - 20170710	7/10/17	-	C	3	9038 50+1931 Cl <sup>-</sup> NO <sub>3</sub>	3	
Trip Blank	-	-	-	3	9064 TOC	2	

**Preservation Codes:**  
 A - Hydrochloric Acid  
 B - Sodium Hydroxide  
 C - Zinc Acetate  
 D - Nitric Acid  
 E - Sodium Bisulfite  
 F - Methanol  
 H - Ascorbic Acid  
 J - Deionized Water  
 M - Hexane  
 N - No Preservative  
 P - Sodium Sulfate  
 Q - Sodium Sulfite  
 R - Sodium Thiosulfate  
 S - Sulfuric Acid  
 Z - other (specify)

**Regulatory Programs:**  
 MCP  GW1/S1   
 RCP  CT RSR   
 DEP Form  EDD Required   
 eDEP Filing  NPDES

**Subcontract Policy:**  
 Unless you provide instructions to the contrary, or specify which sub-contract labs are or are not to be used, you agree in advance to permit TestAmerica to use certified, subcontract labs, without any additional notification made by us, as necessary to fulfill your work order.

**Sample Disposal Requirements (A fee may be assessed if samples are retained longer than 1 month):**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

**NOTE!! ALL SAMPLES MUST BE TRANSPORTED IN A COOLER, ON ICE !!**

Relinquished by: [Signature] Date/Time: 7-10-17 1345 Company: ISSI  
 Relinquished by: [Signature] Date/Time: 7-11-17 0700 Company: ISSI  
 Relinquished by: [Signature] Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No  No  
 Cooler Temperature(s) °C and Other Remarks: 2.0 #1



# 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: 480-120884-1

Client Project/Site: IDS Wayland

For:

Innovative Engineering Solutions, Inc

25 Spring Street

Walpole, Massachusetts 02081

Attn: Vicki Pariyar



Authorized for release by:

7/21/2017 10:28:21 AM

Denise Giglia, Project Management Assistant II

[denise.giglia@testamericainc.com](mailto:denise.giglia@testamericainc.com)

Designee for

Becky Mason, Project Manager II

(413)572-4000

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

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*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: 480-120884-1

## Qualifiers

### GC/MS VOA

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

### 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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: 480-120884-1

**Job ID: 480-120884-1**

**Laboratory: TestAmerica Buffalo**

## Narrative

### Job Narrative 480-120884-1

#### Receipt

The samples were received on 7/12/2017 1:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

#### GC/MS VOA

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 8260C: The following samples were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-263M-20170711 (480-120884-1) and MW-562-20170711 (480-120884-2). The samples were analyzed within 7 days per EPA recommendation.

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-562-20170711 (480-120884-2). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) for Dichlorodifluoromethane associated with batch 480-367425 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-263M-20170711 (480-120884-1), MW-562-20170711 (480-120884-2), MW-563-20170711 (480-120884-3), REW-7-20170711 (480-120884-4) and REW-12-20170711 (480-120884-5).

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-367425 exceeded control limits for the following analytes: 2-Butanone and 2-Hexanone. Unlike the calibration standards, this is due to the coelution with Ethyl Acetate and 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-263M-20170711 (480-120884-1), MW-562-20170711 (480-120884-2), MW-563-20170711 (480-120884-3), REW-7-20170711 (480-120884-4) and REW-12-20170711 (480-120884-5).

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-367425 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-263M-20170711 (480-120884-1), MW-562-20170711 (480-120884-2), MW-563-20170711 (480-120884-3), REW-7-20170711 (480-120884-4) and REW-12-20170711 (480-120884-5).

Method 8260C: The following sample was diluted due to the abundance of non-target analytes: REW-12-20170711 (480-120884-5). Elevated reporting limits (RLs) are provided.

Method 8260C: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following sample was analyzed after 7 days from sampling: MW-562-20170711 (480-120884-2).

Method 8260C: The continuing calibration verification (CCV) for Carbon tetrachloride, Vinyl Chloride, Dichlorodifluoromethane, 1,1,1-Trichloroethane, and Trichlorofluoromethane associated with batch 480-367645 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 sample was affected : TRIP BLANK (480-120884-6).

Method 8260C: The laboratory control sample (LCS) for batch 480-367645 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 sample was affected : TRIP BLANK (480-120884-6).

# Case Narrative

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

TestAmerica Job ID: 480-120884-1

## Job ID: 480-120884-1 (Continued)

### Laboratory: TestAmerica Buffalo (Continued)

Method 8260C: The laboratory control sample (LCS) for batch 480-367645 exceeded control limits for the following analyte: Tetrahydrofuran. Unlike the calibration standards, this is due to the co-elution with Methacrylonitrile 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 sample was affected : TRIP BLANK (480-120884-6).

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-562-20170711 (480-120884-2). Elevated reporting limits (RLs) are provided.

Method 8260C: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following sample was analyzed after 7 days from sampling: MW-263M-20170711 (480-120884-1).

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-263M-20170711 (480-120884-1). 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.

### HPLC/IC

Method 300.0: The following samples was reported with elevated reporting limits for all analytes: MW-263M-20170711 (480-120884-1), MW-562-20170711 (480-120884-2) and REW-12-20170711 (480-120884-5). The sample was analyzed at a dilution based on screening results.

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

### Metals

Method 6010: At the request of the client, an abbreviated/modified 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 SM 2320B: The following samples was received with headspace in the sample bottle: MW-263M-20170711 (480-120884-1), MW-562-20170711 (480-120884-2), MW-563-20170711 (480-120884-3), REW-7-20170711 (480-120884-4) and REW-12-20170711 (480-120884-5).

Method 353.2: The inter parameter relationship between nitrate/nitrite and nitrite does not meet acceptable criteria. This has been confirmed in both NO<sub>3</sub>/NO<sub>2</sub> and NO<sub>2</sub> analysis.  
MW-263M-20170711 (480-120884-1)

Method 353.2: The inter parameter relationship between nitrate/nitrite and nitrite does not meet acceptable criteria. This has been confirmed in both NO<sub>3</sub>/NO<sub>2</sub> and NO<sub>2</sub> analysis.  
MW-263M-20170711 (480-120884-1)

Method 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-263M-20170711 (480-120884-1), MW-562-20170711 (480-120884-2), MW-563-20170711 (480-120884-3), REW-7-20170711 (480-120884-4) and REW-12-20170711 (480-120884-5).

Method Nitrate by calc: The inter parameter relationship between nitrate/nitrite and nitrite does not meet acceptable criteria for sample: MW-263M-20170711 (480-120884-1). This has been confirmed in both NO<sub>3</sub>/NO<sub>2</sub> and NO<sub>2</sub> analysis.

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 #: **480-120884**

Project Location: **IDS Wayland** RTN:

**This form provides certifications for the following data set: list Laboratory Sample ID Number(s):**  
**480-120884[1-6]**

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 <input type="checkbox"/>	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>
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**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350**

<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: Denise L. Giglia Position: Project Manager Assistant II  
 Printed Name: Denise L. Giglia Date: 7/21/17 10:19

# Detection Summary

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

TestAmerica Job ID: 480-120884-1

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**Client Sample ID: MW-562-20170711**

**Lab Sample ID: 480-120884-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	400	*	40		ug/L	4		8260C	Total/NA
Toluene	16		4.0		ug/L	4		8260C	Total/NA
Acetone - DL	9200		2000		ug/L	40		8260C	Total/NA
Iron	590		0.50		mg/L	10		6010	Total/NA
Chloride	88		5.0		mg/L	10		300.0	Total/NA
Ammonia	0.24		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	2600		50		mg/L	50		9060A	Total/NA
TOC Result 2	2700		50		mg/L	50		9060A	Total/NA
Total Organic Carbon - Duplicates	2600		50		mg/L	50		9060A	Total/NA
Alkalinity, Total	1100		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.13		0.040		mg/L	2		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.5	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.0	HF	0.001		Degrees C	1		9040C	Total/NA

**Client Sample ID: MW-563-20170711**

**Lab Sample ID: 480-120884-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	2.1		1.0		ug/L	1		8260C	Total/NA
Iron	11		0.050		mg/L	1		6010	Total/NA
Chloride	10		0.50		mg/L	1		300.0	Total/NA
Sulfate	5.9		2.0		mg/L	1		300.0	Total/NA
Ammonia	0.54		0.20		mg/L	1		350.1	Total/NA
TOC Result 1	1.3		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	1.0		1.0		mg/L	1		9060A	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: 480-120884-1

## Client Sample ID: MW-563-20170711 (Continued)

## Lab Sample ID: 480-120884-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon - Duplicates	1.2		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	92		5.0		mg/L	1		SM 2320B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.8	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.0	HF	0.001		Degrees C	1		9040C	Total/NA

## Client Sample ID: REW-7-20170711

## Lab Sample ID: 480-120884-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	4.3		0.050		mg/L	1		6010	Total/NA
Chloride	6.9		0.50		mg/L	1		300.0	Total/NA
Sulfate	21		2.0		mg/L	1		300.0	Total/NA
Ammonia	0.98		0.20		mg/L	1		350.1	Total/NA
Alkalinity, Total	61		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.020		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.0	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.0	HF	0.001		Degrees C	1		9040C	Total/NA

## Client Sample ID: REW-12-20170711

## Lab Sample ID: 480-120884-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	160	*	40		ug/L	4		8260C	Total/NA
cis-1,2-Dichloroethene	4.0		4.0		ug/L	4		8260C	Total/NA
Toluene	32		4.0		ug/L	4		8260C	Total/NA
Iron	200		0.050		mg/L	1		6010	Total/NA
Chloride	44		5.0		mg/L	10		300.0	Total/NA
Sulfate	23		20		mg/L	10		300.0	Total/NA
Ammonia	0.53	F1	0.20		mg/L	1		350.1	Total/NA
TOC Result 1	3000		80		mg/L	80		9060A	Total/NA
TOC Result 2	3100		80		mg/L	80		9060A	Total/NA
Total Organic Carbon - Duplicates	3000		80		mg/L	80		9060A	Total/NA
Alkalinity, Total	720		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.094		0.020		mg/L	1		SM 4500 P E	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.6	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.0	HF	0.001		Degrees C	1		9040C	Total/NA

## Client Sample ID: TRIP BLANK

## Lab Sample ID: 480-120884-6

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: 480-120884-1

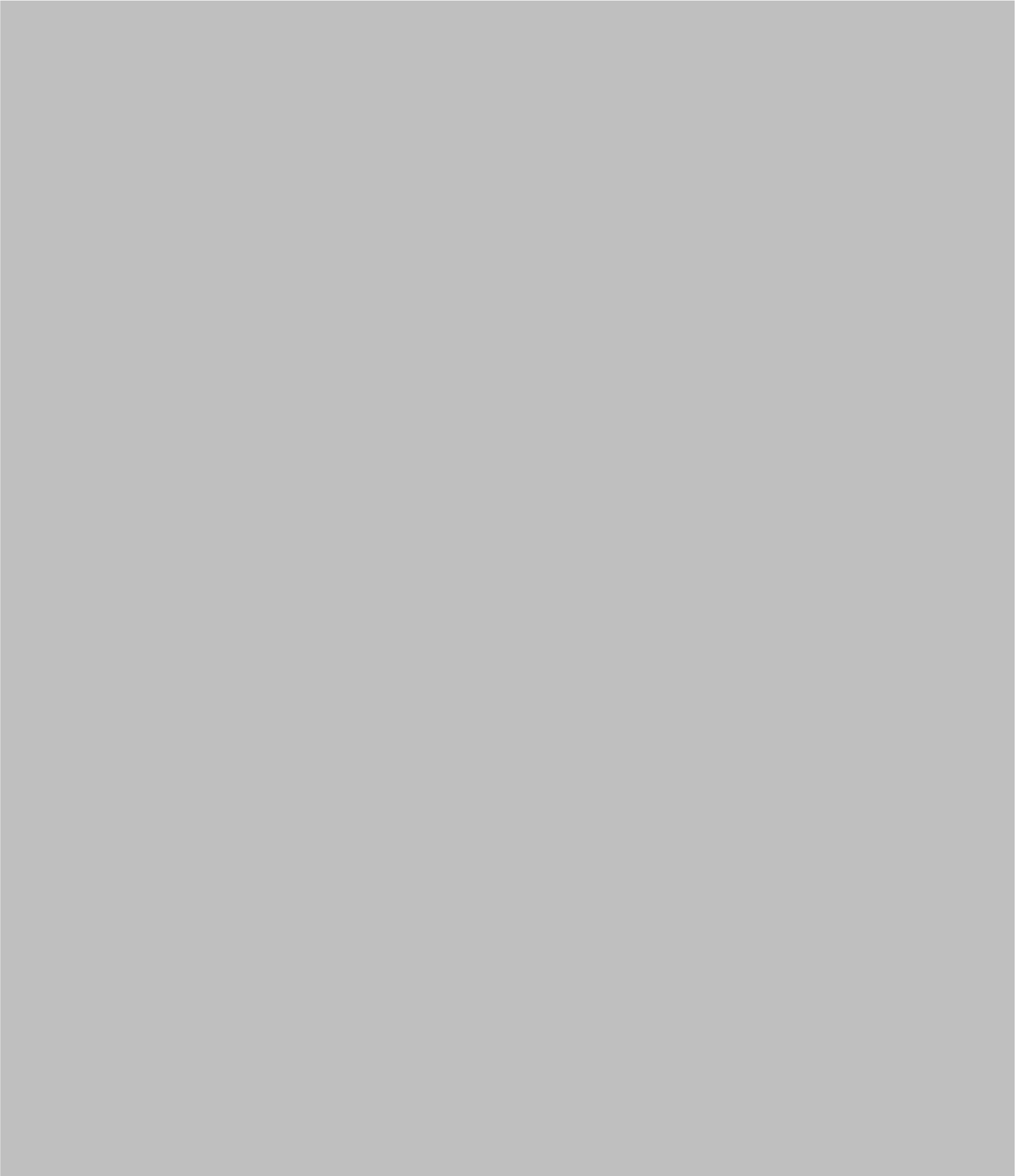


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# Client Sample Results

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

TestAmerica Job ID: 480-120884-1



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# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: MW-562-20170711**

**Lab Sample ID: 480-120884-2**

**Date Collected: 07/11/17 08:30**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

**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			07/18/17 16:14	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/18/17 16:14	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 16:14	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/18/17 16:14	4
1,1-Dichloroethane	ND		4.0		ug/L			07/18/17 16:14	4
1,1-Dichloroethene	ND		4.0		ug/L			07/18/17 16:14	4
1,1-Dichloropropene	ND		4.0		ug/L			07/18/17 16:14	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/18/17 16:14	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/18/17 16:14	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,2-Dichloroethane	ND		4.0		ug/L			07/18/17 16:14	4
1,2-Dichloropropane	ND		4.0		ug/L			07/18/17 16:14	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,3-Dichloropropane	ND		4.0		ug/L			07/18/17 16:14	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/18/17 16:14	4
1,4-Dioxane	ND		200		ug/L			07/18/17 16:14	4
2,2-Dichloropropane	ND		4.0		ug/L			07/18/17 16:14	4
<b>2-Butanone (MEK)</b>	<b>400</b>	*	40		ug/L			07/18/17 16:14	4
2-Chlorotoluene	ND		4.0		ug/L			07/18/17 16:14	4
2-Hexanone	ND	*	40		ug/L			07/18/17 16:14	4
4-Chlorotoluene	ND		4.0		ug/L			07/18/17 16:14	4
4-Isopropyltoluene	ND		4.0		ug/L			07/18/17 16:14	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/18/17 16:14	4
Benzene	ND		4.0		ug/L			07/18/17 16:14	4
Bromobenzene	ND		4.0		ug/L			07/18/17 16:14	4
Bromoform	ND		4.0		ug/L			07/18/17 16:14	4
Bromomethane	ND		8.0		ug/L			07/18/17 16:14	4
Carbon disulfide	ND		40		ug/L			07/18/17 16:14	4
Carbon tetrachloride	ND		4.0		ug/L			07/18/17 16:14	4
Chlorobenzene	ND		4.0		ug/L			07/18/17 16:14	4
Chlorobromomethane	ND		4.0		ug/L			07/18/17 16:14	4
Chlorodibromomethane	ND		2.0		ug/L			07/18/17 16:14	4
Chloroethane	ND		8.0		ug/L			07/18/17 16:14	4
Chloroform	ND		4.0		ug/L			07/18/17 16:14	4
Chloromethane	ND		8.0		ug/L			07/18/17 16:14	4
cis-1,2-Dichloroethene	ND		4.0		ug/L			07/18/17 16:14	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 16:14	4
Dichlorobromomethane	ND		2.0		ug/L			07/18/17 16:14	4
Dichlorodifluoromethane	ND	*	4.0		ug/L			07/18/17 16:14	4
Ethyl ether	ND		4.0		ug/L			07/18/17 16:14	4
Ethylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
Ethylene Dibromide	ND		4.0		ug/L			07/18/17 16:14	4

TestAmerica Buffalo



# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: MW-562-20170711**

**Lab Sample ID: 480-120884-2**

**Date Collected: 07/11/17 08:30**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.6		ug/L			07/18/17 16:14	4
Isopropyl ether	ND		40		ug/L			07/18/17 16:14	4
Isopropylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/18/17 16:14	4
Methylene Chloride	ND		4.0		ug/L			07/18/17 16:14	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/18/17 16:14	4
Naphthalene	ND		20		ug/L			07/18/17 16:14	4
n-Butylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
N-Propylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
o-Xylene	ND		4.0		ug/L			07/18/17 16:14	4
sec-Butylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
Styrene	ND		4.0		ug/L			07/18/17 16:14	4
Tert-amyl methyl ether	ND		20		ug/L			07/18/17 16:14	4
Tert-butyl ethyl ether	ND		20		ug/L			07/18/17 16:14	4
tert-Butylbenzene	ND		4.0		ug/L			07/18/17 16:14	4
Tetrachloroethene	ND		4.0		ug/L			07/18/17 16:14	4
Tetrahydrofuran	ND		40		ug/L			07/18/17 16:14	4
<b>Toluene</b>	<b>16</b>		4.0		ug/L			07/18/17 16:14	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/18/17 16:14	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 16:14	4
Trichloroethene	ND		4.0		ug/L			07/18/17 16:14	4
Trichlorofluoromethane	ND		4.0		ug/L			07/18/17 16:14	4
Vinyl chloride	ND		4.0		ug/L			07/18/17 16:14	4
Dibromomethane	ND		4.0		ug/L			07/18/17 16:14	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		07/18/17 16:14	4
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		07/18/17 16:14	4
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 16:14	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>9200</b>		2000		ug/L			07/19/17 12:31	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		07/19/17 12:31	40
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		07/19/17 12:31	40
4-Bromofluorobenzene (Surr)	98		70 - 130		07/19/17 12:31	40

## Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>590</b>		0.50		mg/L		07/13/17 08:50	07/14/17 15:41	10

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>88</b>		5.0		mg/L			07/14/17 21:59	10
Sulfate	ND		20		mg/L			07/14/17 21:59	10
<b>Ammonia</b>	<b>0.24</b>		0.20		mg/L		07/13/17 14:42	07/13/17 17:41	1
Nitrate as N	ND		0.050		mg/L			07/12/17 17:57	1
<b>TOC Result 1</b>	<b>2600</b>		50		mg/L			07/19/17 03:23	50
<b>TOC Result 2</b>	<b>2700</b>		50		mg/L			07/19/17 03:23	50

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: MW-562-20170711**

**Lab Sample ID: 480-120884-2**

**Date Collected: 07/11/17 08:30**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	2600		50		mg/L			07/19/17 03:23	50
Alkalinity, Total	1100		5.0		mg/L			07/13/17 23:48	1
ortho-Phosphate	0.13		0.040		mg/L			07/12/17 22:00	2
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.5	HF	0.1		SU			07/13/17 11:25	1
Temperature	21.0	HF	0.001		Degrees C			07/13/17 11:25	1

**Client Sample ID: MW-563-20170711**

**Lab Sample ID: 480-120884-3**

**Date Collected: 07/11/17 11:50**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

## 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			07/18/17 16:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 16:39	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 16:39	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 16:39	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 16:39	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 16:39	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 16:39	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 16:39	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 16:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 16:39	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 16:39	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 16:39	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 16:39	1
1,4-Dioxane	ND		50		ug/L			07/18/17 16:39	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 16:39	1
2-Butanone (MEK)	ND	*	10		ug/L			07/18/17 16:39	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 16:39	1
2-Hexanone	ND	*	10		ug/L			07/18/17 16:39	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 16:39	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 16:39	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 16:39	1
Acetone	ND		50		ug/L			07/18/17 16:39	1
Benzene	ND		1.0		ug/L			07/18/17 16:39	1
Bromobenzene	ND		1.0		ug/L			07/18/17 16:39	1
Bromoform	ND		1.0		ug/L			07/18/17 16:39	1
Bromomethane	ND		2.0		ug/L			07/18/17 16:39	1
Carbon disulfide	ND		10		ug/L			07/18/17 16:39	1
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 16:39	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 16:39	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 16:39	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: MW-563-20170711**

**Lab Sample ID: 480-120884-3**

**Date Collected: 07/11/17 11:50**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 16:39	1
Chloroethane	ND		2.0		ug/L			07/18/17 16:39	1
Chloroform	ND		1.0		ug/L			07/18/17 16:39	1
Chloromethane	ND		2.0		ug/L			07/18/17 16:39	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 16:39	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 16:39	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 16:39	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/18/17 16:39	1
Ethyl ether	ND		1.0		ug/L			07/18/17 16:39	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 16:39	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 16:39	1
Isopropyl ether	ND		10		ug/L			07/18/17 16:39	1
Isopropylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/18/17 16:39	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 16:39	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 16:39	1
Naphthalene	ND		5.0		ug/L			07/18/17 16:39	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
o-Xylene	ND		1.0		ug/L			07/18/17 16:39	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
Styrene	ND		1.0		ug/L			07/18/17 16:39	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 16:39	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 16:39	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 16:39	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 16:39	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 16:39	1
Toluene	ND		1.0		ug/L			07/18/17 16:39	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 16:39	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 16:39	1
Trichloroethene	ND		1.0		ug/L			07/18/17 16:39	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 16:39	1
<b>Vinyl chloride</b>	<b>2.1</b>		1.0		ug/L			07/18/17 16:39	1
Dibromomethane	ND		1.0		ug/L			07/18/17 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		07/18/17 16:39	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		07/18/17 16:39	1
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 16:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11		0.050		mg/L		07/13/17 08:50	07/13/17 20:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		0.50		mg/L			07/14/17 22:13	1
Sulfate	5.9		2.0		mg/L			07/14/17 22:13	1
Ammonia	0.54		0.20		mg/L		07/13/17 14:42	07/13/17 17:42	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: MW-563-20170711**

**Lab Sample ID: 480-120884-3**

**Date Collected: 07/11/17 11:50**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050		mg/L			07/12/17 18:01	1
<b>TOC Result 1</b>	<b>1.3</b>		1.0		mg/L			07/18/17 13:12	1
<b>TOC Result 2</b>	<b>1.0</b>		1.0		mg/L			07/18/17 13:12	1
<b>Total Organic Carbon - Duplicates</b>	<b>1.2</b>		1.0		mg/L			07/18/17 13:12	1
<b>Alkalinity, Total</b>	<b>92</b>		5.0		mg/L			07/13/17 23:54	1
ortho-Phosphate	ND		0.020		mg/L			07/12/17 22:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>6.8</b>	<b>HF</b>	0.1		SU			07/13/17 11:27	1
<b>Temperature</b>	<b>21.0</b>	<b>HF</b>	0.001		Degrees C			07/13/17 11:27	1

**Client Sample ID: REW-7-20170711**

**Lab Sample ID: 480-120884-4**

**Date Collected: 07/11/17 12:40**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

## 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			07/18/17 17:04	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 17:04	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 17:04	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 17:04	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 17:04	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 17:04	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 17:04	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 17:04	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 17:04	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 17:04	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 17:04	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 17:04	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 17:04	1
1,4-Dioxane	ND		50		ug/L			07/18/17 17:04	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 17:04	1
2-Butanone (MEK)	ND	*	10		ug/L			07/18/17 17:04	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 17:04	1
2-Hexanone	ND	*	10		ug/L			07/18/17 17:04	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 17:04	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 17:04	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 17:04	1
Acetone	ND		50		ug/L			07/18/17 17:04	1
Benzene	ND		1.0		ug/L			07/18/17 17:04	1
Bromobenzene	ND		1.0		ug/L			07/18/17 17:04	1
Bromoform	ND		1.0		ug/L			07/18/17 17:04	1
Bromomethane	ND		2.0		ug/L			07/18/17 17:04	1
Carbon disulfide	ND		10		ug/L			07/18/17 17:04	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: REW-7-20170711**

**Lab Sample ID: 480-120884-4**

**Date Collected: 07/11/17 12:40**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 17:04	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 17:04	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 17:04	1
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 17:04	1
Chloroethane	ND		2.0		ug/L			07/18/17 17:04	1
Chloroform	ND		1.0		ug/L			07/18/17 17:04	1
Chloromethane	ND		2.0		ug/L			07/18/17 17:04	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 17:04	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 17:04	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 17:04	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/18/17 17:04	1
Ethyl ether	ND		1.0		ug/L			07/18/17 17:04	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 17:04	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 17:04	1
Isopropyl ether	ND		10		ug/L			07/18/17 17:04	1
Isopropylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/18/17 17:04	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 17:04	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 17:04	1
Naphthalene	ND		5.0		ug/L			07/18/17 17:04	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
o-Xylene	ND		1.0		ug/L			07/18/17 17:04	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
Styrene	ND		1.0		ug/L			07/18/17 17:04	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 17:04	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 17:04	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 17:04	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 17:04	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 17:04	1
Toluene	ND		1.0		ug/L			07/18/17 17:04	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 17:04	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 17:04	1
Trichloroethene	ND		1.0		ug/L			07/18/17 17:04	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 17:04	1
Vinyl chloride	ND		1.0		ug/L			07/18/17 17:04	1
Dibromomethane	ND		1.0		ug/L			07/18/17 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		07/18/17 17:04	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		07/18/17 17:04	1
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 17:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4.3		0.050		mg/L		07/13/17 08:50	07/13/17 21:15	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: REW-7-20170711**

**Lab Sample ID: 480-120884-4**

**Date Collected: 07/11/17 12:40**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.9		0.50		mg/L			07/14/17 22:28	1
Sulfate	21		2.0		mg/L			07/14/17 22:28	1
Ammonia	0.98		0.20		mg/L		07/13/17 14:42	07/13/17 17:43	1
Nitrate as N	ND		0.050		mg/L			07/12/17 18:02	1
TOC Result 1	ND		1.0		mg/L			07/19/17 04:15	1
TOC Result 2	ND		1.0		mg/L			07/19/17 04:15	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/19/17 04:15	1
Alkalinity, Total	61		5.0		mg/L			07/14/17 00:12	1
ortho-Phosphate	0.020		0.020		mg/L			07/12/17 22:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1		SU			07/13/17 11:30	1
Temperature	21.0	HF	0.001		Degrees C			07/13/17 11:30	1

**Client Sample ID: REW-12-20170711**

**Lab Sample ID: 480-120884-5**

**Date Collected: 07/11/17 10:45**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

## 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			07/18/17 17:29	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/18/17 17:29	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/18/17 17:29	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/18/17 17:29	4
1,1-Dichloroethane	ND		4.0		ug/L			07/18/17 17:29	4
1,1-Dichloroethene	ND		4.0		ug/L			07/18/17 17:29	4
1,1-Dichloropropene	ND		4.0		ug/L			07/18/17 17:29	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/18/17 17:29	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/18/17 17:29	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,2-Dichloroethane	ND		4.0		ug/L			07/18/17 17:29	4
1,2-Dichloropropane	ND		4.0		ug/L			07/18/17 17:29	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,3-Dichloropropane	ND		4.0		ug/L			07/18/17 17:29	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/18/17 17:29	4
1,4-Dioxane	ND		200		ug/L			07/18/17 17:29	4
2,2-Dichloropropane	ND		4.0		ug/L			07/18/17 17:29	4
2-Butanone (MEK)	160	*	40		ug/L			07/18/17 17:29	4
2-Chlorotoluene	ND		4.0		ug/L			07/18/17 17:29	4
2-Hexanone	ND	*	40		ug/L			07/18/17 17:29	4
4-Chlorotoluene	ND		4.0		ug/L			07/18/17 17:29	4
4-Isopropyltoluene	ND		4.0		ug/L			07/18/17 17:29	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/18/17 17:29	4
Acetone	ND		200		ug/L			07/18/17 17:29	4
Benzene	ND		4.0		ug/L			07/18/17 17:29	4
Bromobenzene	ND		4.0		ug/L			07/18/17 17:29	4

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: REW-12-20170711**

**Lab Sample ID: 480-120884-5**

**Date Collected: 07/11/17 10:45**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		4.0		ug/L			07/18/17 17:29	4
Bromomethane	ND		8.0		ug/L			07/18/17 17:29	4
Carbon disulfide	ND		40		ug/L			07/18/17 17:29	4
Carbon tetrachloride	ND		4.0		ug/L			07/18/17 17:29	4
Chlorobenzene	ND		4.0		ug/L			07/18/17 17:29	4
Chlorobromomethane	ND		4.0		ug/L			07/18/17 17:29	4
Chlorodibromomethane	ND		2.0		ug/L			07/18/17 17:29	4
Chloroethane	ND		8.0		ug/L			07/18/17 17:29	4
Chloroform	ND		4.0		ug/L			07/18/17 17:29	4
Chloromethane	ND		8.0		ug/L			07/18/17 17:29	4
<b>cis-1,2-Dichloroethene</b>	<b>4.0</b>		4.0		ug/L			07/18/17 17:29	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 17:29	4
Dichlorobromomethane	ND		2.0		ug/L			07/18/17 17:29	4
Dichlorodifluoromethane	ND *		4.0		ug/L			07/18/17 17:29	4
Ethyl ether	ND		4.0		ug/L			07/18/17 17:29	4
Ethylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
Ethylene Dibromide	ND		4.0		ug/L			07/18/17 17:29	4
Hexachlorobutadiene	ND		1.6		ug/L			07/18/17 17:29	4
Isopropyl ether	ND		40		ug/L			07/18/17 17:29	4
Isopropylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/18/17 17:29	4
Methylene Chloride	ND		4.0		ug/L			07/18/17 17:29	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/18/17 17:29	4
Naphthalene	ND		20		ug/L			07/18/17 17:29	4
n-Butylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
N-Propylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
o-Xylene	ND		4.0		ug/L			07/18/17 17:29	4
sec-Butylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
Styrene	ND		4.0		ug/L			07/18/17 17:29	4
Tert-amyl methyl ether	ND		20		ug/L			07/18/17 17:29	4
Tert-butyl ethyl ether	ND		20		ug/L			07/18/17 17:29	4
tert-Butylbenzene	ND		4.0		ug/L			07/18/17 17:29	4
Tetrachloroethene	ND		4.0		ug/L			07/18/17 17:29	4
Tetrahydrofuran	ND		40		ug/L			07/18/17 17:29	4
<b>Toluene</b>	<b>32</b>		4.0		ug/L			07/18/17 17:29	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/18/17 17:29	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/18/17 17:29	4
Trichloroethene	ND		4.0		ug/L			07/18/17 17:29	4
Trichlorofluoromethane	ND		4.0		ug/L			07/18/17 17:29	4
Vinyl chloride	ND		4.0		ug/L			07/18/17 17:29	4
Dibromomethane	ND		4.0		ug/L			07/18/17 17:29	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	99		70 - 130		07/18/17 17:29	4
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		70 - 130		07/18/17 17:29	4
<i>4-Bromofluorobenzene (Surr)</i>	97		70 - 130		07/18/17 17:29	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Iron</b>	<b>200</b>		0.050		mg/L		07/13/17 08:50	07/13/17 21:18	1

TestAmerica Buffalo

# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		5.0		mg/L			07/14/17 22:42	10
Sulfate	23		20		mg/L			07/14/17 22:42	10
Ammonia	0.53	F1	0.20		mg/L		07/13/17 14:42	07/13/17 17:45	1
Nitrate as N	ND		0.050		mg/L			07/12/17 21:28	1
TOC Result 1	3000		80		mg/L			07/19/17 03:49	80
TOC Result 2	3100		80		mg/L			07/19/17 03:49	80
Total Organic Carbon - Duplicates	3000		80		mg/L			07/19/17 03:49	80
Alkalinity, Total	720		5.0		mg/L			07/14/17 00:22	1
ortho-Phosphate	0.094		0.020		mg/L			07/12/17 22:00	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.6	HF	0.1		SU			07/13/17 11:33	1
Temperature	21.0	HF	0.001		Degrees C			07/13/17 11:33	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-120884-6

Date Collected: 07/11/17 00:00

Matrix: Water

Date Received: 07/12/17 01:30

## 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			07/19/17 12:55	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/19/17 12:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/19/17 12:55	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/19/17 12:55	1
1,1-Dichloroethane	ND		1.0		ug/L			07/19/17 12:55	1
1,1-Dichloroethene	ND		1.0		ug/L			07/19/17 12:55	1
1,1-Dichloropropene	ND		1.0		ug/L			07/19/17 12:55	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/19/17 12:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/19/17 12:55	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,2-Dichloroethane	ND		1.0		ug/L			07/19/17 12:55	1
1,2-Dichloropropane	ND		1.0		ug/L			07/19/17 12:55	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,3-Dichloropropane	ND		1.0		ug/L			07/19/17 12:55	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/19/17 12:55	1
1,4-Dioxane	ND		50		ug/L			07/19/17 12:55	1
2,2-Dichloropropane	ND		1.0		ug/L			07/19/17 12:55	1
2-Butanone (MEK)	ND		10		ug/L			07/19/17 12:55	1
2-Chlorotoluene	ND		1.0		ug/L			07/19/17 12:55	1
2-Hexanone	ND		10		ug/L			07/19/17 12:55	1
4-Chlorotoluene	ND		1.0		ug/L			07/19/17 12:55	1
4-Isopropyltoluene	ND		1.0		ug/L			07/19/17 12:55	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/19/17 12:55	1
Acetone	ND		50		ug/L			07/19/17 12:55	1
Benzene	ND		1.0		ug/L			07/19/17 12:55	1
Bromobenzene	ND		1.0		ug/L			07/19/17 12:55	1
Bromoform	ND		1.0		ug/L			07/19/17 12:55	1
Bromomethane	ND		2.0		ug/L			07/19/17 12:55	1
Carbon disulfide	ND		10		ug/L			07/19/17 12:55	1
Carbon tetrachloride	ND		1.0		ug/L			07/19/17 12:55	1

TestAmerica Buffalo



# Client Sample Results

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-120884-6**

**Date Collected: 07/11/17 00:00**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0		ug/L			07/19/17 12:55	1
Chlorobromomethane	ND		1.0		ug/L			07/19/17 12:55	1
Chlorodibromomethane	ND		0.50		ug/L			07/19/17 12:55	1
Chloroethane	ND		2.0		ug/L			07/19/17 12:55	1
Chloroform	ND		1.0		ug/L			07/19/17 12:55	1
Chloromethane	ND		2.0		ug/L			07/19/17 12:55	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/19/17 12:55	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/19/17 12:55	1
Dichlorobromomethane	ND		0.50		ug/L			07/19/17 12:55	1
Dichlorodifluoromethane	ND *		1.0		ug/L			07/19/17 12:55	1
Ethyl ether	ND		1.0		ug/L			07/19/17 12:55	1
Ethylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
Ethylene Dibromide	ND		1.0		ug/L			07/19/17 12:55	1
Hexachlorobutadiene	ND		0.40		ug/L			07/19/17 12:55	1
Isopropyl ether	ND		10		ug/L			07/19/17 12:55	1
Isopropylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/19/17 12:55	1
Methylene Chloride	ND		1.0		ug/L			07/19/17 12:55	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/19/17 12:55	1
Naphthalene	ND		5.0		ug/L			07/19/17 12:55	1
n-Butylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
N-Propylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
o-Xylene	ND		1.0		ug/L			07/19/17 12:55	1
sec-Butylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
Styrene	ND		1.0		ug/L			07/19/17 12:55	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/19/17 12:55	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/19/17 12:55	1
tert-Butylbenzene	ND		1.0		ug/L			07/19/17 12:55	1
Tetrachloroethene	ND		1.0		ug/L			07/19/17 12:55	1
Tetrahydrofuran	ND *		10		ug/L			07/19/17 12:55	1
Toluene	ND		1.0		ug/L			07/19/17 12:55	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/19/17 12:55	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/19/17 12:55	1
Trichloroethene	ND		1.0		ug/L			07/19/17 12:55	1
Trichlorofluoromethane	ND		1.0		ug/L			07/19/17 12:55	1
Vinyl chloride	ND		1.0		ug/L			07/19/17 12:55	1
Dibromomethane	ND		1.0		ug/L			07/19/17 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		07/19/17 12:55	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		07/19/17 12:55	1
4-Bromofluorobenzene (Surr)	100		70 - 130		07/19/17 12:55	1

# Surrogate Summary

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

TestAmerica Job ID: 480-120884-1

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

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL (70-130)	12DCE (70-130)	BFB (70-130)
480-120884-2	MW-562-20170711	98	102	96
480-120884-2 - DL	MW-562-20170711	99	98	98
480-120884-3	MW-563-20170711	100	101	96
480-120884-4	REW-7-20170711	100	98	96
480-120884-5	REW-12-20170711	99	100	97
480-120884-6	TRIP BLANK	100	105	100
LCS 480-367425/26	Lab Control Sample	99	101	96
LCS 480-367645/4	Lab Control Sample	99	97	100
LCS 480-367779/4	Lab Control Sample	99	101	100
LCSD 480-367425/24	Lab Control Sample Dup	100	97	100
LCSD 480-367645/7	Lab Control Sample Dup	99	102	99
LCSD 480-367779/5	Lab Control Sample Dup	99	96	100
MB 480-367425/7	Method Blank	99	99	96
MB 480-367645/6	Method Blank	97	98	98
MB 480-367779/7	Method Blank	99	96	100

### 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: 480-120884-1

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

Lab Sample ID: MB 480-367425/7

Matrix: Water

Analysis Batch: 367425

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			07/18/17 13:36	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/18/17 13:36	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,1-Dichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,1-Dichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
1,1-Dichloropropene	ND		1.0		ug/L			07/18/17 13:36	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/18/17 13:36	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,2-Dichloroethane	ND		1.0		ug/L			07/18/17 13:36	1
1,2-Dichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,3-Dichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
1,4-Dioxane	ND		50		ug/L			07/18/17 13:36	1
2,2-Dichloropropane	ND		1.0		ug/L			07/18/17 13:36	1
2-Butanone (MEK)	ND		10		ug/L			07/18/17 13:36	1
2-Chlorotoluene	ND		1.0		ug/L			07/18/17 13:36	1
2-Hexanone	ND		10		ug/L			07/18/17 13:36	1
4-Chlorotoluene	ND		1.0		ug/L			07/18/17 13:36	1
4-Isopropyltoluene	ND		1.0		ug/L			07/18/17 13:36	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/18/17 13:36	1
Acetone	ND		50		ug/L			07/18/17 13:36	1
Benzene	ND		1.0		ug/L			07/18/17 13:36	1
Bromobenzene	ND		1.0		ug/L			07/18/17 13:36	1
Bromoform	ND		1.0		ug/L			07/18/17 13:36	1
Bromomethane	ND		2.0		ug/L			07/18/17 13:36	1
Carbon disulfide	ND		10		ug/L			07/18/17 13:36	1
Carbon tetrachloride	ND		1.0		ug/L			07/18/17 13:36	1
Chlorobenzene	ND		1.0		ug/L			07/18/17 13:36	1
Chlorobromomethane	ND		1.0		ug/L			07/18/17 13:36	1
Chlorodibromomethane	ND		0.50		ug/L			07/18/17 13:36	1
Chloroethane	ND		2.0		ug/L			07/18/17 13:36	1
Chloroform	ND		1.0		ug/L			07/18/17 13:36	1
Chloromethane	ND		2.0		ug/L			07/18/17 13:36	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 13:36	1
Dichlorobromomethane	ND		0.50		ug/L			07/18/17 13:36	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/18/17 13:36	1
Ethyl ether	ND		1.0		ug/L			07/18/17 13:36	1
Ethylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Ethylene Dibromide	ND		1.0		ug/L			07/18/17 13:36	1
Hexachlorobutadiene	ND		0.40		ug/L			07/18/17 13:36	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

**Lab Sample ID: MB 480-367425/7**  
**Matrix: Water**  
**Analysis Batch: 367425**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		10		ug/L			07/18/17 13:36	1
Isopropylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/18/17 13:36	1
Methylene Chloride	ND		1.0		ug/L			07/18/17 13:36	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/18/17 13:36	1
Naphthalene	ND		5.0		ug/L			07/18/17 13:36	1
n-Butylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
N-Propylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
o-Xylene	ND		1.0		ug/L			07/18/17 13:36	1
sec-Butylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Styrene	ND		1.0		ug/L			07/18/17 13:36	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/18/17 13:36	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/18/17 13:36	1
tert-Butylbenzene	ND		1.0		ug/L			07/18/17 13:36	1
Tetrachloroethene	ND		1.0		ug/L			07/18/17 13:36	1
Tetrahydrofuran	ND		10		ug/L			07/18/17 13:36	1
Toluene	ND		1.0		ug/L			07/18/17 13:36	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/18/17 13:36	1
Trichloroethene	ND		1.0		ug/L			07/18/17 13:36	1
Trichlorofluoromethane	ND		1.0		ug/L			07/18/17 13:36	1
Vinyl chloride	ND		1.0		ug/L			07/18/17 13:36	1
Dibromomethane	ND		1.0		ug/L			07/18/17 13:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		07/18/17 13:36	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		07/18/17 13:36	1
4-Bromofluorobenzene (Surr)	96		70 - 130		07/18/17 13:36	1

**Lab Sample ID: LCS 480-367425/26**  
**Matrix: Water**  
**Analysis Batch: 367425**

**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	23.7		ug/L		95	70 - 130
1,1,1-Trichloroethane	25.0	19.9		ug/L		79	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.9		ug/L		100	70 - 130
1,1,2-Trichloroethane	25.0	23.4		ug/L		94	70 - 130
1,1-Dichloroethane	25.0	21.4		ug/L		86	70 - 130
1,1-Dichloroethene	25.0	19.7		ug/L		79	70 - 130
1,1-Dichloropropene	25.0	19.9		ug/L		80	70 - 130
1,2,3-Trichlorobenzene	25.0	23.9		ug/L		96	70 - 130
1,2,3-Trichloropropane	25.0	25.1		ug/L		101	70 - 130
1,2,4-Trichlorobenzene	25.0	23.8		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	25.0	23.4		ug/L		94	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	24.2		ug/L		97	70 - 130
1,2-Dichlorobenzene	25.0	23.9		ug/L		96	70 - 130
1,2-Dichloroethane	25.0	21.9		ug/L		87	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCS 480-367425/26

Matrix: Water

Analysis Batch: 367425

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	21.9		ug/L		88	70 - 130
1,3,5-Trimethylbenzene	25.0	23.3		ug/L		93	70 - 130
1,3-Dichlorobenzene	25.0	24.0		ug/L		96	70 - 130
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130
1,4-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130
1,4-Dioxane	500	471		ug/L		94	70 - 130
2,2-Dichloropropane	25.0	21.3		ug/L		85	70 - 130
2-Butanone (MEK)	125	211	*	ug/L		169	70 - 130
2-Chlorotoluene	25.0	26.1		ug/L		104	70 - 130
2-Hexanone	125	178	*	ug/L		142	70 - 130
4-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130
4-Isopropyltoluene	25.0	23.1		ug/L		92	70 - 130
4-Methyl-2-pentanone (MIBK)	125	119		ug/L		95	70 - 130
Acetone	125	122		ug/L		98	70 - 130
Benzene	25.0	20.9		ug/L		84	70 - 130
Bromobenzene	25.0	23.8		ug/L		95	70 - 130
Bromoform	25.0	24.1		ug/L		97	70 - 130
Bromomethane	25.0	21.0		ug/L		84	70 - 130
Carbon disulfide	25.0	20.1		ug/L		81	70 - 130
Carbon tetrachloride	25.0	19.9		ug/L		80	70 - 130
Chlorobenzene	25.0	23.1		ug/L		92	70 - 130
Chlorobromomethane	25.0	22.5		ug/L		90	70 - 130
Chlorodibromomethane	25.0	23.5		ug/L		94	70 - 130
Chloroethane	25.0	20.0		ug/L		80	70 - 130
Chloroform	25.0	21.3		ug/L		85	70 - 130
Chloromethane	25.0	18.9		ug/L		76	70 - 130
cis-1,2-Dichloroethene	25.0	21.2		ug/L		85	70 - 130
cis-1,3-Dichloropropene	25.0	22.1		ug/L		89	70 - 130
Dichlorobromomethane	25.0	21.8		ug/L		87	70 - 130
Dichlorodifluoromethane	25.0	17.6		ug/L		70	70 - 130
Ethyl ether	25.0	21.6		ug/L		86	70 - 130
Ethylbenzene	25.0	22.7		ug/L		91	70 - 130
Ethylene Dibromide	25.0	23.6		ug/L		94	70 - 130
Hexachlorobutadiene	25.0	20.3		ug/L		81	70 - 130
Isopropyl ether	25.0	23.3		ug/L		93	70 - 130
Isopropylbenzene	25.0	22.6		ug/L		90	70 - 130
Methyl tert-butyl ether	25.0	21.5		ug/L		86	70 - 130
Methylene Chloride	25.0	21.8		ug/L		87	70 - 130
m-Xylene & p-Xylene	25.0	22.6		ug/L		90	70 - 130
Naphthalene	25.0	24.7		ug/L		99	70 - 130
n-Butylbenzene	25.0	23.3		ug/L		93	70 - 130
N-Propylbenzene	25.0	23.2		ug/L		93	70 - 130
o-Xylene	25.0	23.2		ug/L		93	70 - 130
sec-Butylbenzene	25.0	22.4		ug/L		90	70 - 130
Styrene	25.0	23.1		ug/L		92	70 - 130
Tert-amyl methyl ether	25.0	24.4		ug/L		97	70 - 130
Tert-butyl ethyl ether	25.0	23.3		ug/L		93	70 - 130
tert-Butylbenzene	25.0	22.0		ug/L		88	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCS 480-367425/26

Matrix: Water

Analysis Batch: 367425

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	22.8		ug/L		91	70 - 130
Tetrahydrofuran	50.0	42.4		ug/L		85	70 - 130
Toluene	25.0	22.4		ug/L		90	70 - 130
trans-1,2-Dichloroethene	25.0	19.9		ug/L		80	70 - 130
trans-1,3-Dichloropropene	25.0	23.4		ug/L		94	70 - 130
Trichloroethene	25.0	21.0		ug/L		84	70 - 130
Trichlorofluoromethane	25.0	19.4		ug/L		77	70 - 130
Vinyl chloride	25.0	18.8		ug/L		75	70 - 130
Dibromomethane	25.0	22.2		ug/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 480-367425/24

Matrix: Water

Analysis Batch: 367425

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	22.9		ug/L		92	70 - 130	3	20
1,1,1-Trichloroethane	25.0	18.9		ug/L		76	70 - 130	5	20
1,1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	70 - 130	4	20
1,1,1,2-Trichloroethane	25.0	23.4		ug/L		93	70 - 130	0	20
1,1-Dichloroethane	25.0	20.6		ug/L		82	70 - 130	4	20
1,1-Dichloroethene	25.0	18.5		ug/L		74	70 - 130	6	20
1,1-Dichloropropene	25.0	18.8		ug/L		75	70 - 130	6	20
1,2,3-Trichlorobenzene	25.0	23.6		ug/L		94	70 - 130	2	20
1,2,3-Trichloropropane	25.0	25.1		ug/L		100	70 - 130	0	20
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		94	70 - 130	2	20
1,2,4-Trimethylbenzene	25.0	22.4		ug/L		90	70 - 130	4	20
1,2-Dibromo-3-Chloropropane	25.0	24.0		ug/L		96	70 - 130	1	20
1,2-Dichlorobenzene	25.0	23.3		ug/L		93	70 - 130	2	20
1,2-Dichloroethane	25.0	21.3		ug/L		85	70 - 130	2	20
1,2-Dichloropropane	25.0	21.2		ug/L		85	70 - 130	3	20
1,3,5-Trimethylbenzene	25.0	22.4		ug/L		90	70 - 130	4	20
1,3-Dichlorobenzene	25.0	22.9		ug/L		92	70 - 130	5	20
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130	0	20
1,4-Dichlorobenzene	25.0	22.7		ug/L		91	70 - 130	4	20
1,4-Dioxane	500	505		ug/L		101	70 - 130	7	20
2,2-Dichloropropane	25.0	20.2		ug/L		81	70 - 130	6	20
2-Butanone (MEK)	125	205	*	ug/L		164	70 - 130	3	20
2-Chlorotoluene	25.0	24.3		ug/L		97	70 - 130	7	20
2-Hexanone	125	175	*	ug/L		140	70 - 130	2	20
4-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130	3	20
4-Isopropyltoluene	25.0	22.1		ug/L		88	70 - 130	5	20
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	70 - 130	0	20
Acetone	125	115		ug/L		92	70 - 130	6	20

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCSD 480-367425/24

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 367425

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	23.0		ug/L		92	70 - 130	3	20
Bromoform	25.0	24.1		ug/L		96	70 - 130	0	20
Bromomethane	25.0	20.4		ug/L		82	70 - 130	3	20
Carbon disulfide	25.0	19.3		ug/L		77	70 - 130	4	20
Carbon tetrachloride	25.0	18.7		ug/L		75	70 - 130	6	20
Chlorobenzene	25.0	22.8		ug/L		91	70 - 130	2	20
Chlorobromomethane	25.0	21.6		ug/L		87	70 - 130	4	20
Chlorodibromomethane	25.0	23.4		ug/L		94	70 - 130	0	20
Chloroethane	25.0	19.0		ug/L		76	70 - 130	5	20
Chloroform	25.0	20.8		ug/L		83	70 - 130	3	20
Chloromethane	25.0	17.7		ug/L		71	70 - 130	6	20
cis-1,2-Dichloroethene	25.0	20.5		ug/L		82	70 - 130	3	20
cis-1,3-Dichloropropene	25.0	21.1		ug/L		84	70 - 130	5	20
Dichlorobromomethane	25.0	21.0		ug/L		84	70 - 130	4	20
Dichlorodifluoromethane	25.0	16.6	*	ug/L		66	70 - 130	6	20
Ethyl ether	25.0	21.3		ug/L		85	70 - 130	1	20
Ethylbenzene	25.0	21.9		ug/L		88	70 - 130	3	20
Ethylene Dibromide	25.0	24.0		ug/L		96	70 - 130	2	20
Hexachlorobutadiene	25.0	19.7		ug/L		79	70 - 130	3	20
Isopropyl ether	25.0	22.4		ug/L		90	70 - 130	4	20
Isopropylbenzene	25.0	21.7		ug/L		87	70 - 130	4	20
Methyl tert-butyl ether	25.0	21.1		ug/L		84	70 - 130	2	20
Methylene Chloride	25.0	21.1		ug/L		84	70 - 130	3	20
m-Xylene & p-Xylene	25.0	22.0		ug/L		88	70 - 130	3	20
Naphthalene	25.0	24.2		ug/L		97	70 - 130	2	20
n-Butylbenzene	25.0	22.1		ug/L		88	70 - 130	5	20
N-Propylbenzene	25.0	22.3		ug/L		89	70 - 130	4	20
o-Xylene	25.0	22.6		ug/L		91	70 - 130	2	20
sec-Butylbenzene	25.0	21.3		ug/L		85	70 - 130	5	20
Styrene	25.0	22.3		ug/L		89	70 - 130	4	20
Tert-amyl methyl ether	25.0	23.7		ug/L		95	70 - 130	3	20
Tert-butyl ethyl ether	25.0	22.6		ug/L		90	70 - 130	3	20
tert-Butylbenzene	25.0	20.8		ug/L		83	70 - 130	6	20
Tetrachloroethene	25.0	23.4		ug/L		93	70 - 130	2	20
Tetrahydrofuran	50.0	41.5		ug/L		83	70 - 130	2	20
Toluene	25.0	22.0		ug/L		88	70 - 130	2	20
trans-1,2-Dichloroethene	25.0	19.3		ug/L		77	70 - 130	3	20
trans-1,3-Dichloropropene	25.0	23.4		ug/L		93	70 - 130	0	20
Trichloroethene	25.0	19.9		ug/L		80	70 - 130	5	20
Trichlorofluoromethane	25.0	17.8		ug/L		71	70 - 130	9	20
Vinyl chloride	25.0	17.5		ug/L		70	70 - 130	7	20
Dibromomethane	25.0	22.0		ug/L		88	70 - 130	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		70 - 130
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

Lab Sample ID: MB 480-367645/6  
Matrix: Water  
Analysis Batch: 367645

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			07/19/17 11:37	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/19/17 11:37	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/19/17 11:37	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/19/17 11:37	1
1,1-Dichloroethane	ND		1.0		ug/L			07/19/17 11:37	1
1,1-Dichloroethene	ND		1.0		ug/L			07/19/17 11:37	1
1,1-Dichloropropene	ND		1.0		ug/L			07/19/17 11:37	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/19/17 11:37	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/19/17 11:37	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,2-Dichloroethane	ND		1.0		ug/L			07/19/17 11:37	1
1,2-Dichloropropane	ND		1.0		ug/L			07/19/17 11:37	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,3-Dichloropropane	ND		1.0		ug/L			07/19/17 11:37	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/19/17 11:37	1
1,4-Dioxane	ND		50		ug/L			07/19/17 11:37	1
2,2-Dichloropropane	ND		1.0		ug/L			07/19/17 11:37	1
2-Butanone (MEK)	ND		10		ug/L			07/19/17 11:37	1
2-Chlorotoluene	ND		1.0		ug/L			07/19/17 11:37	1
2-Hexanone	ND		10		ug/L			07/19/17 11:37	1
4-Chlorotoluene	ND		1.0		ug/L			07/19/17 11:37	1
4-Isopropyltoluene	ND		1.0		ug/L			07/19/17 11:37	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/19/17 11:37	1
Acetone	ND		50		ug/L			07/19/17 11:37	1
Benzene	ND		1.0		ug/L			07/19/17 11:37	1
Bromobenzene	ND		1.0		ug/L			07/19/17 11:37	1
Bromoform	ND		1.0		ug/L			07/19/17 11:37	1
Bromomethane	ND		2.0		ug/L			07/19/17 11:37	1
Carbon disulfide	ND		10		ug/L			07/19/17 11:37	1
Carbon tetrachloride	ND		1.0		ug/L			07/19/17 11:37	1
Chlorobenzene	ND		1.0		ug/L			07/19/17 11:37	1
Chlorobromomethane	ND		1.0		ug/L			07/19/17 11:37	1
Chlorodibromomethane	ND		0.50		ug/L			07/19/17 11:37	1
Chloroethane	ND		2.0		ug/L			07/19/17 11:37	1
Chloroform	ND		1.0		ug/L			07/19/17 11:37	1
Chloromethane	ND		2.0		ug/L			07/19/17 11:37	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/19/17 11:37	1
cis-1,3-Dichloropropane	ND		0.40		ug/L			07/19/17 11:37	1
Dichlorobromomethane	ND		0.50		ug/L			07/19/17 11:37	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/19/17 11:37	1
Ethyl ether	ND		1.0		ug/L			07/19/17 11:37	1
Ethylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
Ethylene Dibromide	ND		1.0		ug/L			07/19/17 11:37	1
Hexachlorobutadiene	ND		0.40		ug/L			07/19/17 11:37	1
Isopropyl ether	ND		10		ug/L			07/19/17 11:37	1
Isopropylbenzene	ND		1.0		ug/L			07/19/17 11:37	1

TestAmerica Buffalo



# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

**Lab Sample ID: MB 480-367645/6**

**Matrix: Water**

**Analysis Batch: 367645**

**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			07/19/17 11:37	1
Methylene Chloride	ND		1.0		ug/L			07/19/17 11:37	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/19/17 11:37	1
Naphthalene	ND		5.0		ug/L			07/19/17 11:37	1
n-Butylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
N-Propylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
o-Xylene	ND		1.0		ug/L			07/19/17 11:37	1
sec-Butylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
Styrene	ND		1.0		ug/L			07/19/17 11:37	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/19/17 11:37	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/19/17 11:37	1
tert-Butylbenzene	ND		1.0		ug/L			07/19/17 11:37	1
Tetrachloroethene	ND		1.0		ug/L			07/19/17 11:37	1
Tetrahydrofuran	ND		10		ug/L			07/19/17 11:37	1
Toluene	ND		1.0		ug/L			07/19/17 11:37	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/19/17 11:37	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/19/17 11:37	1
Trichloroethene	ND		1.0		ug/L			07/19/17 11:37	1
Trichlorofluoromethane	ND		1.0		ug/L			07/19/17 11:37	1
Vinyl chloride	ND		1.0		ug/L			07/19/17 11:37	1
Dibromomethane	ND		1.0		ug/L			07/19/17 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		07/19/17 11:37	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		07/19/17 11:37	1
4-Bromofluorobenzene (Surr)	98		70 - 130		07/19/17 11:37	1

**Lab Sample ID: LCS 480-367645/4**

**Matrix: Water**

**Analysis Batch: 367645**

**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	22.2		ug/L		89	70 - 130
1,1,1-Trichloroethane	25.0	19.9		ug/L		80	70 - 130
1,1,1,2,2-Tetrachloroethane	25.0	26.5		ug/L		106	70 - 130
1,1,2-Trichloroethane	25.0	24.2		ug/L		97	70 - 130
1,1-Dichloroethane	25.0	23.1		ug/L		92	70 - 130
1,1-Dichloroethene	25.0	19.8		ug/L		79	70 - 130
1,1-Dichloropropene	25.0	19.7		ug/L		79	70 - 130
1,2,3-Trichlorobenzene	25.0	24.3		ug/L		97	70 - 130
1,2,3-Trichloropropane	25.0	24.5		ug/L		98	70 - 130
1,2,4-Trichlorobenzene	25.0	23.9		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	25.0	23.1		ug/L		92	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	25.9		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,2-Dichloroethane	25.0	24.1		ug/L		96	70 - 130
1,2-Dichloropropane	25.0	23.2		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	25.0	22.9		ug/L		92	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCS 480-367645/4

Matrix: Water

Analysis Batch: 367645

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	24.1		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	24.4		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	23.8		ug/L		95	70 - 130
1,4-Dioxane	500	537		ug/L		107	70 - 130
2,2-Dichloropropane	25.0	21.1		ug/L		84	70 - 130
2-Butanone (MEK)	125	126		ug/L		100	70 - 130
2-Chlorotoluene	25.0	22.1		ug/L		88	70 - 130
2-Hexanone	125	134		ug/L		107	70 - 130
4-Chlorotoluene	25.0	24.8		ug/L		99	70 - 130
4-Isopropyltoluene	25.0	21.6		ug/L		86	70 - 130
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		105	70 - 130
Acetone	125	137		ug/L		110	70 - 130
Benzene	25.0	21.7		ug/L		87	70 - 130
Bromobenzene	25.0	23.2		ug/L		93	70 - 130
Bromoform	25.0	26.0		ug/L		104	70 - 130
Bromomethane	25.0	23.2		ug/L		93	70 - 130
Carbon disulfide	25.0	20.1		ug/L		80	70 - 130
Carbon tetrachloride	25.0	18.7		ug/L		75	70 - 130
Chlorobenzene	25.0	22.2		ug/L		89	70 - 130
Chlorobromomethane	25.0	23.7		ug/L		95	70 - 130
Chlorodibromomethane	25.0	23.8		ug/L		95	70 - 130
Chloroethane	25.0	21.3		ug/L		85	70 - 130
Chloroform	25.0	22.2		ug/L		89	70 - 130
Chloromethane	25.0	20.6		ug/L		83	70 - 130
cis-1,2-Dichloroethene	25.0	22.8		ug/L		91	70 - 130
cis-1,3-Dichloropropene	25.0	24.3		ug/L		97	70 - 130
Dichlorobromomethane	25.0	23.8		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	16.9 *		ug/L		67	70 - 130
Ethyl ether	25.0	23.2		ug/L		93	70 - 130
Ethylbenzene	25.0	21.9		ug/L		88	70 - 130
Ethylene Dibromide	25.0	24.5		ug/L		98	70 - 130
Hexachlorobutadiene	25.0	20.7		ug/L		83	70 - 130
Isopropyl ether	25.0	25.5		ug/L		102	70 - 130
Isopropylbenzene	25.0	21.5		ug/L		86	70 - 130
Methyl tert-butyl ether	25.0	25.4		ug/L		101	70 - 130
Methylene Chloride	25.0	23.7		ug/L		95	70 - 130
m-Xylene & p-Xylene	25.0	22.3		ug/L		89	70 - 130
Naphthalene	25.0	26.8		ug/L		107	70 - 130
n-Butylbenzene	25.0	21.4		ug/L		86	70 - 130
N-Propylbenzene	25.0	21.9		ug/L		88	70 - 130
o-Xylene	25.0	22.9		ug/L		92	70 - 130
sec-Butylbenzene	25.0	21.2		ug/L		85	70 - 130
Styrene	25.0	23.2		ug/L		93	70 - 130
Tert-amyl methyl ether	25.0	25.0		ug/L		100	70 - 130
Tert-butyl ethyl ether	25.0	24.2		ug/L		97	70 - 130
tert-Butylbenzene	25.0	21.7		ug/L		87	70 - 130
Tetrachloroethene	25.0	20.9		ug/L		84	70 - 130
Tetrahydrofuran	50.0	75.3 *		ug/L		151	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

**Lab Sample ID: LCS 480-367645/4**

**Matrix: Water**

**Analysis Batch: 367645**

**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	22.1		ug/L		88	70 - 130
trans-1,2-Dichloroethene	25.0	21.5		ug/L		86	70 - 130
trans-1,3-Dichloropropene	25.0	25.0		ug/L		100	70 - 130
Trichloroethene	25.0	21.8		ug/L		87	70 - 130
Trichlorofluoromethane	25.0	18.6		ug/L		74	70 - 130
Vinyl chloride	25.0	19.0		ug/L		76	70 - 130
Dibromomethane	25.0	25.2		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130

**Lab Sample ID: LCSD 480-367645/7**

**Matrix: Water**

**Analysis Batch: 367645**

**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	23.8		ug/L		95	70 - 130	7	20
1,1,1-Trichloroethane	25.0	21.9		ug/L		88	70 - 130	10	20
1,1,1,2,2-Tetrachloroethane	25.0	26.4		ug/L		105	70 - 130	0	20
1,1,2-Trichloroethane	25.0	25.9		ug/L		104	70 - 130	7	20
1,1-Dichloroethane	25.0	24.7		ug/L		99	70 - 130	7	20
1,1-Dichloroethene	25.0	21.3		ug/L		85	70 - 130	8	20
1,1-Dichloropropene	25.0	21.0		ug/L		84	70 - 130	7	20
1,2,3-Trichlorobenzene	25.0	24.8		ug/L		99	70 - 130	2	20
1,2,3-Trichloropropane	25.0	24.9		ug/L		100	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	24.0		ug/L		96	70 - 130	0	20
1,2,4-Trimethylbenzene	25.0	23.5		ug/L		94	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	25.0	27.9		ug/L		111	70 - 130	7	20
1,2-Dichlorobenzene	25.0	24.4		ug/L		97	70 - 130	1	20
1,2-Dichloroethane	25.0	24.7		ug/L		99	70 - 130	3	20
1,2-Dichloropropane	25.0	25.4		ug/L		102	70 - 130	9	20
1,3,5-Trimethylbenzene	25.0	22.9		ug/L		92	70 - 130	0	20
1,3-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130	2	20
1,3-Dichloropropane	25.0	24.7		ug/L		99	70 - 130	1	20
1,4-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130	1	20
1,4-Dioxane	500	622		ug/L		124	70 - 130	15	20
2,2-Dichloropropane	25.0	22.8		ug/L		91	70 - 130	8	20
2-Butanone (MEK)	125	126		ug/L		101	70 - 130	0	20
2-Chlorotoluene	25.0	23.7		ug/L		95	70 - 130	7	20
2-Hexanone	125	137		ug/L		110	70 - 130	2	20
4-Chlorotoluene	25.0	25.7		ug/L		103	70 - 130	3	20
4-Isopropyltoluene	25.0	22.4		ug/L		90	70 - 130	4	20
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		105	70 - 130	1	20
Acetone	125	146		ug/L		117	70 - 130	6	20
Benzene	25.0	23.6		ug/L		94	70 - 130	8	20
Bromobenzene	25.0	23.6		ug/L		94	70 - 130	2	20

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

**Lab Sample ID: LCSD 480-367645/7**

**Matrix: Water**

**Analysis Batch: 367645**

**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	25.1		ug/L		100	70 - 130	3	20
Bromomethane	25.0	24.3		ug/L		97	70 - 130	5	20
Carbon disulfide	25.0	22.6		ug/L		91	70 - 130	12	20
Carbon tetrachloride	25.0	21.1		ug/L		84	70 - 130	12	20
Chlorobenzene	25.0	23.7		ug/L		95	70 - 130	7	20
Chlorobromomethane	25.0	25.2		ug/L		101	70 - 130	6	20
Chlorodibromomethane	25.0	24.0		ug/L		96	70 - 130	1	20
Chloroethane	25.0	23.7		ug/L		95	70 - 130	11	20
Chloroform	25.0	24.4		ug/L		98	70 - 130	10	20
Chloromethane	25.0	21.8		ug/L		87	70 - 130	6	20
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 130	6	20
cis-1,3-Dichloropropene	25.0	25.9		ug/L		103	70 - 130	6	20
Dichlorobromomethane	25.0	24.4		ug/L		98	70 - 130	3	20
Dichlorodifluoromethane	25.0	19.6		ug/L		78	70 - 130	15	20
Ethyl ether	25.0	24.4		ug/L		98	70 - 130	5	20
Ethylbenzene	25.0	23.0		ug/L		92	70 - 130	5	20
Ethylene Dibromide	25.0	23.9		ug/L		96	70 - 130	2	20
Hexachlorobutadiene	25.0	21.7		ug/L		87	70 - 130	5	20
Isopropyl ether	25.0	26.5		ug/L		106	70 - 130	4	20
Isopropylbenzene	25.0	22.3		ug/L		89	70 - 130	3	20
Methyl tert-butyl ether	25.0	25.5		ug/L		102	70 - 130	1	20
Methylene Chloride	25.0	23.2		ug/L		93	70 - 130	2	20
m-Xylene & p-Xylene	25.0	23.9		ug/L		96	70 - 130	7	20
Naphthalene	25.0	26.8		ug/L		107	70 - 130	0	20
n-Butylbenzene	25.0	22.8		ug/L		91	70 - 130	6	20
N-Propylbenzene	25.0	22.8		ug/L		91	70 - 130	4	20
o-Xylene	25.0	24.4		ug/L		98	70 - 130	6	20
sec-Butylbenzene	25.0	21.9		ug/L		88	70 - 130	3	20
Styrene	25.0	24.2		ug/L		97	70 - 130	4	20
Tert-amyl methyl ether	25.0	25.9		ug/L		104	70 - 130	4	20
Tert-butyl ethyl ether	25.0	25.3		ug/L		101	70 - 130	4	20
tert-Butylbenzene	25.0	23.3		ug/L		93	70 - 130	7	20
Tetrachloroethene	25.0	22.7		ug/L		91	70 - 130	8	20
Tetrahydrofuran	50.0	63.4		ug/L		127	70 - 130	17	20
Toluene	25.0	22.6		ug/L		90	70 - 130	2	20
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	70 - 130	12	20
trans-1,3-Dichloropropene	25.0	25.3		ug/L		101	70 - 130	1	20
Trichloroethene	25.0	23.5		ug/L		94	70 - 130	7	20
Trichlorofluoromethane	25.0	19.9		ug/L		80	70 - 130	7	20
Vinyl chloride	25.0	21.3		ug/L		85	70 - 130	11	20
Dibromomethane	25.0	25.9		ug/L		104	70 - 130	3	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		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: 480-120884-1

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

Lab Sample ID: MB 480-367779/7

Matrix: Water

Analysis Batch: 367779

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			07/19/17 22:19	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/19/17 22:19	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/19/17 22:19	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/19/17 22:19	1
1,1-Dichloroethane	ND		1.0		ug/L			07/19/17 22:19	1
1,1-Dichloroethene	ND		1.0		ug/L			07/19/17 22:19	1
1,1-Dichloropropene	ND		1.0		ug/L			07/19/17 22:19	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/19/17 22:19	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/19/17 22:19	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,2-Dichloroethane	ND		1.0		ug/L			07/19/17 22:19	1
1,2-Dichloropropane	ND		1.0		ug/L			07/19/17 22:19	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,3-Dichloropropane	ND		1.0		ug/L			07/19/17 22:19	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/19/17 22:19	1
1,4-Dioxane	ND		50		ug/L			07/19/17 22:19	1
2,2-Dichloropropane	ND		1.0		ug/L			07/19/17 22:19	1
2-Butanone (MEK)	ND		10		ug/L			07/19/17 22:19	1
2-Chlorotoluene	ND		1.0		ug/L			07/19/17 22:19	1
2-Hexanone	ND		10		ug/L			07/19/17 22:19	1
4-Chlorotoluene	ND		1.0		ug/L			07/19/17 22:19	1
4-Isopropyltoluene	ND		1.0		ug/L			07/19/17 22:19	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/19/17 22:19	1
Acetone	ND		50		ug/L			07/19/17 22:19	1
Benzene	ND		1.0		ug/L			07/19/17 22:19	1
Bromobenzene	ND		1.0		ug/L			07/19/17 22:19	1
Bromoform	ND		1.0		ug/L			07/19/17 22:19	1
Bromomethane	ND		2.0		ug/L			07/19/17 22:19	1
Carbon disulfide	ND		10		ug/L			07/19/17 22:19	1
Carbon tetrachloride	ND		1.0		ug/L			07/19/17 22:19	1
Chlorobenzene	ND		1.0		ug/L			07/19/17 22:19	1
Chlorobromomethane	ND		1.0		ug/L			07/19/17 22:19	1
Chlorodibromomethane	ND		0.50		ug/L			07/19/17 22:19	1
Chloroethane	ND		2.0		ug/L			07/19/17 22:19	1
Chloroform	ND		1.0		ug/L			07/19/17 22:19	1
Chloromethane	ND		2.0		ug/L			07/19/17 22:19	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/19/17 22:19	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/19/17 22:19	1
Dichlorobromomethane	ND		0.50		ug/L			07/19/17 22:19	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/19/17 22:19	1
Ethyl ether	ND		1.0		ug/L			07/19/17 22:19	1
Ethylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
Ethylene Dibromide	ND		1.0		ug/L			07/19/17 22:19	1
Hexachlorobutadiene	ND		0.40		ug/L			07/19/17 22:19	1

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

**Lab Sample ID: MB 480-367779/7**

**Matrix: Water**

**Analysis Batch: 367779**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		10		ug/L			07/19/17 22:19	1
Isopropylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/19/17 22:19	1
Methylene Chloride	ND		1.0		ug/L			07/19/17 22:19	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/19/17 22:19	1
Naphthalene	ND		5.0		ug/L			07/19/17 22:19	1
n-Butylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
N-Propylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
o-Xylene	ND		1.0		ug/L			07/19/17 22:19	1
sec-Butylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
Styrene	ND		1.0		ug/L			07/19/17 22:19	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/19/17 22:19	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/19/17 22:19	1
tert-Butylbenzene	ND		1.0		ug/L			07/19/17 22:19	1
Tetrachloroethene	ND		1.0		ug/L			07/19/17 22:19	1
Tetrahydrofuran	ND		10		ug/L			07/19/17 22:19	1
Toluene	ND		1.0		ug/L			07/19/17 22:19	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/19/17 22:19	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/19/17 22:19	1
Trichloroethene	ND		1.0		ug/L			07/19/17 22:19	1
Trichlorofluoromethane	ND		1.0		ug/L			07/19/17 22:19	1
Vinyl chloride	ND		1.0		ug/L			07/19/17 22:19	1
Dibromomethane	ND		1.0		ug/L			07/19/17 22:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		07/19/17 22:19	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		07/19/17 22:19	1
4-Bromofluorobenzene (Surr)	100		70 - 130		07/19/17 22:19	1

**Lab Sample ID: LCS 480-367779/4**

**Matrix: Water**

**Analysis Batch: 367779**

**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	21.9		ug/L		88	70 - 130
1,1,1-Trichloroethane	25.0	23.0		ug/L		92	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.4		ug/L		102	70 - 130
1,1,2-Trichloroethane	25.0	23.4		ug/L		94	70 - 130
1,1-Dichloroethane	25.0	25.0		ug/L		100	70 - 130
1,1-Dichloroethene	25.0	23.7		ug/L		95	70 - 130
1,1-Dichloropropene	25.0	23.7		ug/L		95	70 - 130
1,2,3-Trichlorobenzene	25.0	23.6		ug/L		95	70 - 130
1,2,3-Trichloropropane	25.0	23.1		ug/L		92	70 - 130
1,2,4-Trichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,2,4-Trimethylbenzene	25.0	24.4		ug/L		98	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	21.5		ug/L		86	70 - 130
1,2-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130
1,2-Dichloroethane	25.0	23.0		ug/L		92	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCS 480-367779/4

Matrix: Water

Analysis Batch: 367779

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	23.7		ug/L		95	70 - 130
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		96	70 - 130
1,3-Dichlorobenzene	25.0	24.4		ug/L		98	70 - 130
1,3-Dichloropropane	25.0	22.3		ug/L		89	70 - 130
1,4-Dichlorobenzene	25.0	23.6		ug/L		95	70 - 130
1,4-Dioxane	500	399		ug/L		80	70 - 130
2,2-Dichloropropane	25.0	24.5		ug/L		98	70 - 130
2-Butanone (MEK)	125	113		ug/L		90	70 - 130
2-Chlorotoluene	25.0	23.6		ug/L		95	70 - 130
2-Hexanone	125	119		ug/L		95	70 - 130
4-Chlorotoluene	25.0	25.1		ug/L		100	70 - 130
4-Isopropyltoluene	25.0	24.1		ug/L		96	70 - 130
4-Methyl-2-pentanone (MIBK)	125	118		ug/L		94	70 - 130
Acetone	125	125		ug/L		100	70 - 130
Benzene	25.0	23.2		ug/L		93	70 - 130
Bromobenzene	25.0	23.6		ug/L		94	70 - 130
Bromoform	25.0	22.9		ug/L		92	70 - 130
Bromomethane	25.0	22.9		ug/L		92	70 - 130
Carbon disulfide	25.0	23.7		ug/L		95	70 - 130
Carbon tetrachloride	25.0	23.2		ug/L		93	70 - 130
Chlorobenzene	25.0	22.4		ug/L		89	70 - 130
Chlorobromomethane	25.0	23.1		ug/L		93	70 - 130
Chlorodibromomethane	25.0	21.4		ug/L		86	70 - 130
Chloroethane	25.0	24.8		ug/L		99	70 - 130
Chloroform	25.0	23.6		ug/L		95	70 - 130
Chloromethane	25.0	23.5		ug/L		94	70 - 130
cis-1,2-Dichloroethene	25.0	23.4		ug/L		94	70 - 130
cis-1,3-Dichloropropene	25.0	24.1		ug/L		96	70 - 130
Dichlorobromomethane	25.0	23.1		ug/L		93	70 - 130
Dichlorodifluoromethane	25.0	22.6		ug/L		91	70 - 130
Ethyl ether	25.0	21.7		ug/L		87	70 - 130
Ethylbenzene	25.0	22.6		ug/L		90	70 - 130
Ethylene Dibromide	25.0	22.8		ug/L		91	70 - 130
Hexachlorobutadiene	25.0	23.3		ug/L		93	70 - 130
Isopropyl ether	25.0	24.6		ug/L		98	70 - 130
Isopropylbenzene	25.0	23.8		ug/L		95	70 - 130
Methyl tert-butyl ether	25.0	23.5		ug/L		94	70 - 130
Methylene Chloride	25.0	22.5		ug/L		90	70 - 130
m-Xylene & p-Xylene	25.0	23.6		ug/L		94	70 - 130
Naphthalene	25.0	25.6		ug/L		102	70 - 130
n-Butylbenzene	25.0	24.4		ug/L		98	70 - 130
N-Propylbenzene	25.0	24.3		ug/L		97	70 - 130
o-Xylene	25.0	22.9		ug/L		91	70 - 130
sec-Butylbenzene	25.0	24.0		ug/L		96	70 - 130
Styrene	25.0	23.4		ug/L		93	70 - 130
Tert-amyl methyl ether	25.0	24.2		ug/L		97	70 - 130
Tert-butyl ethyl ether	25.0	23.5		ug/L		94	70 - 130
tert-Butylbenzene	25.0	24.2		ug/L		97	70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCS 480-367779/4

Matrix: Water

Analysis Batch: 367779

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	24.9		ug/L		100	70 - 130
Tetrahydrofuran	50.0	66.7	*	ug/L		133	70 - 130
Toluene	25.0	23.0		ug/L		92	70 - 130
trans-1,2-Dichloroethene	25.0	23.7		ug/L		95	70 - 130
trans-1,3-Dichloropropene	25.0	22.5		ug/L		90	70 - 130
Trichloroethene	25.0	23.7		ug/L		95	70 - 130
Trichlorofluoromethane	25.0	24.3		ug/L		97	70 - 130
Vinyl chloride	25.0	24.1		ug/L		96	70 - 130
Dibromomethane	25.0	25.3		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 480-367779/5

Matrix: Water

Analysis Batch: 367779

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	22.8		ug/L		91	70 - 130	4	20
1,1,1-Trichloroethane	25.0	24.2		ug/L		97	70 - 130	5	20
1,1,1,2,2-Tetrachloroethane	25.0	24.3		ug/L		97	70 - 130	4	20
1,1,2-Trichloroethane	25.0	23.7		ug/L		95	70 - 130	1	20
1,1-Dichloroethane	25.0	24.8		ug/L		99	70 - 130	1	20
1,1-Dichloroethene	25.0	23.6		ug/L		95	70 - 130	0	20
1,1-Dichloropropene	25.0	24.3		ug/L		97	70 - 130	2	20
1,2,3-Trichlorobenzene	25.0	23.6		ug/L		95	70 - 130	0	20
1,2,3-Trichloropropane	25.0	23.9		ug/L		96	70 - 130	4	20
1,2,4-Trichlorobenzene	25.0	23.7		ug/L		95	70 - 130	2	20
1,2,4-Trimethylbenzene	25.0	23.8		ug/L		95	70 - 130	3	20
1,2-Dibromo-3-Chloropropane	25.0	20.6		ug/L		82	70 - 130	5	20
1,2-Dichlorobenzene	25.0	24.1		ug/L		96	70 - 130	0	20
1,2-Dichloroethane	25.0	22.9		ug/L		92	70 - 130	1	20
1,2-Dichloropropane	25.0	23.5		ug/L		94	70 - 130	1	20
1,3,5-Trimethylbenzene	25.0	24.0		ug/L		96	70 - 130	1	20
1,3-Dichlorobenzene	25.0	23.4		ug/L		93	70 - 130	4	20
1,3-Dichloropropane	25.0	23.9		ug/L		95	70 - 130	7	20
1,4-Dichlorobenzene	25.0	23.5		ug/L		94	70 - 130	1	20
1,4-Dioxane	500	458		ug/L		92	70 - 130	14	20
2,2-Dichloropropane	25.0	24.2		ug/L		97	70 - 130	1	20
2-Butanone (MEK)	125	132		ug/L		105	70 - 130	16	20
2-Chlorotoluene	25.0	23.6		ug/L		94	70 - 130	0	20
2-Hexanone	125	120		ug/L		96	70 - 130	1	20
4-Chlorotoluene	25.0	24.6		ug/L		98	70 - 130	2	20
4-Isopropyltoluene	25.0	24.0		ug/L		96	70 - 130	0	20
4-Methyl-2-pentanone (MIBK)	125	118		ug/L		95	70 - 130	0	20
Acetone	125	123		ug/L		98	70 - 130	2	20

TestAmerica Buffalo



# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

Lab Sample ID: LCSD 480-367779/5

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 367779

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	23.3		ug/L		93	70 - 130	0	20
Bromobenzene	25.0	23.1		ug/L		92	70 - 130	2	20
Bromoform	25.0	23.5		ug/L		94	70 - 130	3	20
Bromomethane	25.0	23.8		ug/L		95	70 - 130	4	20
Carbon disulfide	25.0	23.4		ug/L		94	70 - 130	1	20
Carbon tetrachloride	25.0	24.0		ug/L		96	70 - 130	3	20
Chlorobenzene	25.0	23.5		ug/L		94	70 - 130	5	20
Chlorobromomethane	25.0	23.0		ug/L		92	70 - 130	1	20
Chlorodibromomethane	25.0	23.6		ug/L		94	70 - 130	9	20
Chloroethane	25.0	24.6		ug/L		98	70 - 130	1	20
Chloroform	25.0	23.8		ug/L		95	70 - 130	1	20
Chloromethane	25.0	24.0		ug/L		96	70 - 130	2	20
cis-1,2-Dichloroethene	25.0	24.1		ug/L		96	70 - 130	3	20
cis-1,3-Dichloropropene	25.0	23.7		ug/L		95	70 - 130	1	20
Dichlorobromomethane	25.0	22.2		ug/L		89	70 - 130	4	20
Dichlorodifluoromethane	25.0	23.4		ug/L		94	70 - 130	3	20
Ethyl ether	25.0	22.4		ug/L		89	70 - 130	3	20
Ethylbenzene	25.0	24.4		ug/L		98	70 - 130	8	20
Ethylene Dibromide	25.0	24.1		ug/L		96	70 - 130	5	20
Hexachlorobutadiene	25.0	23.5		ug/L		94	70 - 130	1	20
Isopropyl ether	25.0	24.9		ug/L		100	70 - 130	1	20
Isopropylbenzene	25.0	23.8		ug/L		95	70 - 130	0	20
Methyl tert-butyl ether	25.0	22.9		ug/L		91	70 - 130	3	20
Methylene Chloride	25.0	23.2		ug/L		93	70 - 130	3	20
m-Xylene & p-Xylene	25.0	24.8		ug/L		99	70 - 130	5	20
Naphthalene	25.0	24.5		ug/L		98	70 - 130	4	20
n-Butylbenzene	25.0	24.9		ug/L		99	70 - 130	2	20
N-Propylbenzene	25.0	24.2		ug/L		97	70 - 130	1	20
o-Xylene	25.0	23.9		ug/L		96	70 - 130	4	20
sec-Butylbenzene	25.0	23.6		ug/L		94	70 - 130	2	20
Styrene	25.0	24.2		ug/L		97	70 - 130	4	20
Tert-amyl methyl ether	25.0	23.6		ug/L		94	70 - 130	3	20
Tert-butyl ethyl ether	25.0	23.4		ug/L		94	70 - 130	1	20
tert-Butylbenzene	25.0	24.7		ug/L		99	70 - 130	2	20
Tetrachloroethene	25.0	26.8		ug/L		107	70 - 130	8	20
Tetrahydrofuran	50.0	66.1	*	ug/L		132	70 - 130	1	20
Toluene	25.0	24.1		ug/L		96	70 - 130	4	20
trans-1,2-Dichloroethene	25.0	24.0		ug/L		96	70 - 130	1	20
trans-1,3-Dichloropropene	25.0	23.7		ug/L		95	70 - 130	5	20
Trichloroethene	25.0	24.3		ug/L		97	70 - 130	2	20
Trichlorofluoromethane	25.0	25.8		ug/L		103	70 - 130	6	20
Vinyl chloride	25.0	24.9		ug/L		99	70 - 130	3	20
Dibromomethane	25.0	23.7		ug/L		95	70 - 130	7	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

## Method: 6010 - Metals (ICP)

**Lab Sample ID: MB 480-366715/1-A**  
**Matrix: Water**  
**Analysis Batch: 367503**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 366715**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		07/13/17 08:50	07/13/17 20:21	1

**Lab Sample ID: LCS 480-366715/2-A**  
**Matrix: Water**  
**Analysis Batch: 367503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 366715**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	9.99		mg/L		100	80 - 120

**Lab Sample ID: LCSD 480-366715/3-A**  
**Matrix: Water**  
**Analysis Batch: 367503**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 366715**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Iron	10.0	10.0		mg/L		100	80 - 120	0	20

**Lab Sample ID: 480-120884-3 MS**  
**Matrix: Water**  
**Analysis Batch: 367503**

**Client Sample ID: MW-563-20170711**  
**Prep Type: Total/NA**  
**Prep Batch: 366715**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	11		10.0	21.3		mg/L		98	75 - 125

**Lab Sample ID: 480-120884-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 367503**

**Client Sample ID: MW-563-20170711**  
**Prep Type: Total/NA**  
**Prep Batch: 366715**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Iron	11		10.0	21.2		mg/L		98	75 - 125	0	20

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 480-367008/28**  
**Matrix: Water**  
**Analysis Batch: 367008**

**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			07/14/17 18:20	1
Sulfate	ND		2.0		mg/L			07/14/17 18:20	1

**Lab Sample ID: LCS 480-367008/27**  
**Matrix: Water**  
**Analysis Batch: 367008**

**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	49.4		mg/L		99	90 - 110
Sulfate	50.0	52.1		mg/L		104	90 - 110

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 480-366878/2-A**  
**Matrix: Water**  
**Analysis Batch: 366867**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 366878**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20		mg/L		07/13/17 14:42	07/13/17 17:39	1

**Lab Sample ID: LCS 480-366878/1-A**  
**Matrix: Water**  
**Analysis Batch: 366867**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 366878**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.09		mg/L		109	90 - 110

**Lab Sample ID: 480-120884-5 MS**  
**Matrix: Water**  
**Analysis Batch: 366867**

**Client Sample ID: REW-12-20170711**  
**Prep Type: Total/NA**  
**Prep Batch: 366878**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.53	F1	0.500	0.921	F1	mg/L		78	90 - 110

**Lab Sample ID: 480-120884-4 DU**  
**Matrix: Water**  
**Analysis Batch: 366867**

**Client Sample ID: REW-7-20170711**  
**Prep Type: Total/NA**  
**Prep Batch: 366878**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	0.98		0.958		mg/L		3	20

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

**Lab Sample ID: MB 480-367555/4**  
**Matrix: Water**  
**Analysis Batch: 367555**

**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			07/18/17 11:00	1
TOC Result 2	ND		1.0		mg/L			07/18/17 11:00	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/18/17 11:00	1

**Lab Sample ID: LCS 480-367555/5**  
**Matrix: Water**  
**Analysis Batch: 367555**

**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	63.8		mg/L		106	90 - 110
TOC Result 2	60.0	63.9		mg/L		107	90 - 110
Total Organic Carbon - Duplicates	60.0	63.9		mg/L		106	90 - 110

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

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

**Lab Sample ID: MB 480-367705/28**  
**Matrix: Water**  
**Analysis Batch: 367705**

**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			07/19/17 06:01	1
TOC Result 2	ND		1.0		mg/L			07/19/17 06:01	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/19/17 06:01	1

**Lab Sample ID: MB 480-367705/4**  
**Matrix: Water**  
**Analysis Batch: 367705**

**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			07/18/17 19:21	1
TOC Result 2	ND		1.0		mg/L			07/18/17 19:21	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/18/17 19:21	1

**Lab Sample ID: LCS 480-367705/29**  
**Matrix: Water**  
**Analysis Batch: 367705**

**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	62.9		mg/L		105	90 - 110
TOC Result 2	60.0	63.2		mg/L		105	90 - 110
Total Organic Carbon - Duplicates	60.0	63.1		mg/L		105	90 - 110

**Lab Sample ID: LCS 480-367705/5**  
**Matrix: Water**  
**Analysis Batch: 367705**

**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	63.6		mg/L		106	90 - 110
TOC Result 2	60.0	64.4		mg/L		107	90 - 110
Total Organic Carbon - Duplicates	60.0	64.0		mg/L		107	90 - 110

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 480-367041/7**  
**Matrix: Water**  
**Analysis Batch: 367041**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			07/13/17 22:32	1

**Lab Sample ID: LCS 480-367041/8**  
**Matrix: Water**  
**Analysis Batch: 367041**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	96.5		mg/L		96	90 - 110

TestAmerica Buffalo

# QC Sample Results

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

TestAmerica Job ID: 480-120884-1

## Method: SM 4500 P E - Orthophosphate

**Lab Sample ID: MB 480-366693/3**  
**Matrix: Water**  
**Analysis Batch: 366693**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ortho-Phosphate	ND		0.020		mg/L			07/12/17 22:00	1

**Lab Sample ID: LCS 480-366693/4**  
**Matrix: Water**  
**Analysis Batch: 366693**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
ortho-Phosphate	0.200	0.203		mg/L		101	90 - 110

**Lab Sample ID: 480-120884-4 MS**  
**Matrix: Water**  
**Analysis Batch: 366693**

**Client Sample ID: REW-7-20170711**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
ortho-Phosphate	0.020		1.00	1.02		mg/L		100	49 - 138

**Lab Sample ID: 480-120884-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 366693**

**Client Sample ID: REW-7-20170711**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
ortho-Phosphate	0.020		1.00	1.03		mg/L		101	49 - 138	1	20

# QC Association Summary

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

TestAmerica Job ID: 480-120884-1

## GC/MS VOA

### Analysis Batch: 367425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	8260C	
480-120884-2	MW-562-20170711	Total/NA	Water	8260C	
480-120884-3	MW-563-20170711	Total/NA	Water	8260C	
480-120884-4	REW-7-20170711	Total/NA	Water	8260C	
480-120884-5	REW-12-20170711	Total/NA	Water	8260C	
MB 480-367425/7	Method Blank	Total/NA	Water	8260C	
LCS 480-367425/26	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-367425/24	Lab Control Sample Dup	Total/NA	Water	8260C	

### Analysis Batch: 367645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-2 - DL	MW-562-20170711	Total/NA	Water	8260C	
480-120884-6	TRIP BLANK	Total/NA	Water	8260C	
MB 480-367645/6	Method Blank	Total/NA	Water	8260C	
LCS 480-367645/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-367645/7	Lab Control Sample Dup	Total/NA	Water	8260C	

### Analysis Batch: 367779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1 - DL	MW-263M-20170711	Total/NA	Water	8260C	
MB 480-367779/7	Method Blank	Total/NA	Water	8260C	
LCS 480-367779/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-367779/5	Lab Control Sample Dup	Total/NA	Water	8260C	

## Metals

### Prep Batch: 366715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	3005A	
480-120884-2	MW-562-20170711	Total/NA	Water	3005A	
480-120884-3	MW-563-20170711	Total/NA	Water	3005A	
480-120884-4	REW-7-20170711	Total/NA	Water	3005A	
480-120884-5	REW-12-20170711	Total/NA	Water	3005A	
MB 480-366715/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-366715/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-366715/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	
480-120884-3 MS	MW-563-20170711	Total/NA	Water	3005A	
480-120884-3 MSD	MW-563-20170711	Total/NA	Water	3005A	

### Analysis Batch: 367211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-2	MW-562-20170711	Total/NA	Water	6010	366715

### Analysis Batch: 367503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	6010	366715
480-120884-3	MW-563-20170711	Total/NA	Water	6010	366715
480-120884-4	REW-7-20170711	Total/NA	Water	6010	366715
480-120884-5	REW-12-20170711	Total/NA	Water	6010	366715
MB 480-366715/1-A	Method Blank	Total/NA	Water	6010	366715

TestAmerica Buffalo

# QC Association Summary

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

TestAmerica Job ID: 480-120884-1

## Metals (Continued)

### Analysis Batch: 367503 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-366715/2-A	Lab Control Sample	Total/NA	Water	6010	366715
LCSD 480-366715/3-A	Lab Control Sample Dup	Total/NA	Water	6010	366715
480-120884-3 MS	MW-563-20170711	Total/NA	Water	6010	366715
480-120884-3 MSD	MW-563-20170711	Total/NA	Water	6010	366715

## General Chemistry

### Analysis Batch: 366692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	353.2	
480-120884-2	MW-562-20170711	Total/NA	Water	353.2	
480-120884-3	MW-563-20170711	Total/NA	Water	353.2	
480-120884-4	REW-7-20170711	Total/NA	Water	353.2	
480-120884-5	REW-12-20170711	Total/NA	Water	353.2	

### Analysis Batch: 366693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	SM 4500 P E	
480-120884-2	MW-562-20170711	Total/NA	Water	SM 4500 P E	
480-120884-3	MW-563-20170711	Total/NA	Water	SM 4500 P E	
480-120884-4	REW-7-20170711	Total/NA	Water	SM 4500 P E	
480-120884-5	REW-12-20170711	Total/NA	Water	SM 4500 P E	
MB 480-366693/3	Method Blank	Total/NA	Water	SM 4500 P E	
LCS 480-366693/4	Lab Control Sample	Total/NA	Water	SM 4500 P E	
480-120884-4 MS	REW-7-20170711	Total/NA	Water	SM 4500 P E	
480-120884-4 MSD	REW-7-20170711	Total/NA	Water	SM 4500 P E	

### Analysis Batch: 366809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	9040C	
480-120884-2	MW-562-20170711	Total/NA	Water	9040C	
480-120884-3	MW-563-20170711	Total/NA	Water	9040C	
480-120884-4	REW-7-20170711	Total/NA	Water	9040C	
480-120884-5	REW-12-20170711	Total/NA	Water	9040C	
LCS 480-366809/1	Lab Control Sample	Total/NA	Water	9040C	

### Analysis Batch: 366867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	350.1	366878
480-120884-2	MW-562-20170711	Total/NA	Water	350.1	366878
480-120884-3	MW-563-20170711	Total/NA	Water	350.1	366878
480-120884-4	REW-7-20170711	Total/NA	Water	350.1	366878
480-120884-5	REW-12-20170711	Total/NA	Water	350.1	366878
MB 480-366878/2-A	Method Blank	Total/NA	Water	350.1	366878
LCS 480-366878/1-A	Lab Control Sample	Total/NA	Water	350.1	366878
480-120884-5 MS	REW-12-20170711	Total/NA	Water	350.1	366878
480-120884-4 DU	REW-7-20170711	Total/NA	Water	350.1	366878

TestAmerica Buffalo

# QC Association Summary

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

TestAmerica Job ID: 480-120884-1

## General Chemistry (Continued)

### Prep Batch: 366878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	Distill/Ammonia	
480-120884-2	MW-562-20170711	Total/NA	Water	Distill/Ammonia	
480-120884-3	MW-563-20170711	Total/NA	Water	Distill/Ammonia	
480-120884-4	REW-7-20170711	Total/NA	Water	Distill/Ammonia	
480-120884-5	REW-12-20170711	Total/NA	Water	Distill/Ammonia	
MB 480-366878/2-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 480-366878/1-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
480-120884-5 MS	REW-12-20170711	Total/NA	Water	Distill/Ammonia	
480-120884-4 DU	REW-7-20170711	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 367008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	300.0	
480-120884-2	MW-562-20170711	Total/NA	Water	300.0	
480-120884-3	MW-563-20170711	Total/NA	Water	300.0	
480-120884-4	REW-7-20170711	Total/NA	Water	300.0	
480-120884-5	REW-12-20170711	Total/NA	Water	300.0	
MB 480-367008/28	Method Blank	Total/NA	Water	300.0	
LCS 480-367008/27	Lab Control Sample	Total/NA	Water	300.0	

### Analysis Batch: 367041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	SM 2320B	
480-120884-2	MW-562-20170711	Total/NA	Water	SM 2320B	
480-120884-3	MW-563-20170711	Total/NA	Water	SM 2320B	
480-120884-4	REW-7-20170711	Total/NA	Water	SM 2320B	
480-120884-5	REW-12-20170711	Total/NA	Water	SM 2320B	
MB 480-367041/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-367041/8	Lab Control Sample	Total/NA	Water	SM 2320B	

### Analysis Batch: 367555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-3	MW-563-20170711	Total/NA	Water	9060A	
MB 480-367555/4	Method Blank	Total/NA	Water	9060A	
LCS 480-367555/5	Lab Control Sample	Total/NA	Water	9060A	

### Analysis Batch: 367705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-120884-1	MW-263M-20170711	Total/NA	Water	9060A	
480-120884-2	MW-562-20170711	Total/NA	Water	9060A	
480-120884-4	REW-7-20170711	Total/NA	Water	9060A	
480-120884-5	REW-12-20170711	Total/NA	Water	9060A	
MB 480-367705/28	Method Blank	Total/NA	Water	9060A	
MB 480-367705/4	Method Blank	Total/NA	Water	9060A	
LCS 480-367705/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-367705/5	Lab Control Sample	Total/NA	Water	9060A	



# Lab Chronicle

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

TestAmerica Job ID: 480-120884-1

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**Client Sample ID: MW-562-20170711**

**Lab Sample ID: 480-120884-2**

**Date Collected: 07/11/17 08:30**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	367425	07/18/17 16:14	RRS	TAL BUF
Total/NA	Analysis	8260C	DL	40	367645	07/19/17 12:31	JAS	TAL BUF
Total/NA	Prep	3005A			366715	07/13/17 08:50	EMB	TAL BUF
Total/NA	Analysis	6010		10	367211	07/14/17 15:41	LMH	TAL BUF
Total/NA	Analysis	300.0		10	367008	07/14/17 21:59	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366878	07/13/17 14:42	SSS	TAL BUF
Total/NA	Analysis	350.1		1	366867	07/13/17 17:41	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366692	07/12/17 17:57	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366809	07/13/17 11:25	DSC	TAL BUF
Total/NA	Analysis	9060A		50	367705	07/19/17 03:23	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	367041	07/13/17 23:48	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		2	366693	07/12/17 22:00	DCB	TAL BUF

**Client Sample ID: MW-563-20170711**

**Lab Sample ID: 480-120884-3**

**Date Collected: 07/11/17 11:50**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	367425	07/18/17 16:39	RRS	TAL BUF
Total/NA	Prep	3005A			366715	07/13/17 08:50	EMB	TAL BUF
Total/NA	Analysis	6010		1	367503	07/13/17 20:48	LMH	TAL BUF
Total/NA	Analysis	300.0		1	367008	07/14/17 22:13	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366878	07/13/17 14:42	SSS	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: MW-563-20170711**

**Lab Sample ID: 480-120884-3**

**Date Collected: 07/11/17 11:50**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	366867	07/13/17 17:42	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366692	07/12/17 18:01	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366809	07/13/17 11:27	DSC	TAL BUF
Total/NA	Analysis	9060A		1	367555	07/18/17 13:12	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	367041	07/13/17 23:54	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366693	07/12/17 22:00	DCB	TAL BUF

**Client Sample ID: REW-7-20170711**

**Lab Sample ID: 480-120884-4**

**Date Collected: 07/11/17 12:40**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	367425	07/18/17 17:04	RRS	TAL BUF
Total/NA	Prep	3005A			366715	07/13/17 08:50	EMB	TAL BUF
Total/NA	Analysis	6010		1	367503	07/13/17 21:15	LMH	TAL BUF
Total/NA	Analysis	300.0		1	367008	07/14/17 22:28	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366878	07/13/17 14:42	SSS	TAL BUF
Total/NA	Analysis	350.1		1	366867	07/13/17 17:43	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366692	07/12/17 18:02	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366809	07/13/17 11:30	DSC	TAL BUF
Total/NA	Analysis	9060A		1	367705	07/19/17 04:15	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	367041	07/14/17 00:12	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366693	07/12/17 22:00	DCB	TAL BUF

**Client Sample ID: REW-12-20170711**

**Lab Sample ID: 480-120884-5**

**Date Collected: 07/11/17 10:45**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	367425	07/18/17 17:29	RRS	TAL BUF
Total/NA	Prep	3005A			366715	07/13/17 08:50	EMB	TAL BUF
Total/NA	Analysis	6010		1	367503	07/13/17 21:18	LMH	TAL BUF
Total/NA	Analysis	300.0		10	367008	07/14/17 22:42	RJS	TAL BUF
Total/NA	Prep	Distill/Ammonia			366878	07/13/17 14:42	SSS	TAL BUF
Total/NA	Analysis	350.1		1	366867	07/13/17 17:45	SSS	TAL BUF
Total/NA	Analysis	353.2		1	366692	07/12/17 21:28	DCB	TAL BUF
Total/NA	Analysis	9040C		1	366809	07/13/17 11:33	DSC	TAL BUF
Total/NA	Analysis	9060A		80	367705	07/19/17 03:49	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	367041	07/14/17 00:22	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	366693	07/12/17 22:00	DCB	TAL BUF

TestAmerica Buffalo

# Lab Chronicle

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

TestAmerica Job ID: 480-120884-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 480-120884-6**

**Date Collected: 07/11/17 00:00**

**Matrix: Water**

**Date Received: 07/12/17 01:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	367645	07/19/17 12:55	JAS	TAL BUF

**Laboratory References:**

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

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# Accreditation/Certification Summary

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

TestAmerica Job ID: 480-120884-1

## Laboratory: TestAmerica Buffalo

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

Authority	Program	EPA Region	Identification Number	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	09-30-18
Florida	NELAP	4	E87672	06-30-18
Georgia	State Program	4	10026 (NY)	03-31-18
Georgia	State Program	4	956	03-31-18
Illinois	NELAP	5	200003	09-30-17
Iowa	State Program	7	374	03-01-19
Kansas	NELAP	7	E-10187	01-31-18
Kentucky (DW)	State Program	4	90029	12-31-17
Kentucky (UST)	State Program	4	30	03-31-18
Kentucky (WW)	State Program	4	90029	12-31-17
Louisiana	NELAP	6	02031	06-30-18
Maine	State Program	1	NY00044	12-04-18
Maryland	State Program	3	294	03-31-18
Massachusetts	State Program	1	M-NY044	06-30-18
Michigan	State Program	5	9937	04-01-09 *
Minnesota	NELAP	5	036-999-337	12-31-17
New Hampshire	NELAP	1	2337	11-17-17
New Jersey	NELAP	2	NY455	06-30-18
New York	NELAP	2	10026	03-31-18
North Dakota	State Program	8	R-176	03-31-18
Oklahoma	State Program	6	9421	08-31-17
Oregon	NELAP	10	NY200003	06-09-18
Pennsylvania	NELAP	3	68-00281	07-31-17 *
Rhode Island	State Program	1	LAO00328	12-30-17
Tennessee	State Program	4	TN02970	03-31-18
Texas	NELAP	6	T104704412-15-6	07-31-17 *
USDA	Federal		P330-11-00386	11-26-17
Virginia	NELAP	3	460185	09-14-17
Washington	State Program	10	C784	02-10-18
Wisconsin	State Program	5	998310390	08-31-17

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Buffalo

# Method Summary

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

TestAmerica Job ID: 480-120884-1

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: 480-120884-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-120884-1	MW-263M-20170711	Water	07/11/17 09:35	07/12/17 01:30
480-120884-2	MW-562-20170711	Water	07/11/17 08:30	07/12/17 01:30
480-120884-3	MW-563-20170711	Water	07/11/17 11:50	07/12/17 01:30
480-120884-4	REW-7-20170711	Water	07/11/17 12:40	07/12/17 01:30
480-120884-5	REW-12-20170711	Water	07/11/17 10:45	07/12/17 01:30
480-120884-6	TRIP BLANK	Water	07/11/17 00:00	07/12/17 01:30

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## Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 480-120884-1

**Login Number: 120884**

**List Number: 1**

**Creator: Williams, Christopher S**

**List Source: TestAmerica Buffalo**

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	IESI
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	

COC No: **37362**  
Page: **1** of **1**  
Job #:



480-120884 COC

**Client Information:**  
 Client Contact: **Staci Puryear**  
 Company: **Innovative Engineering Solutions Inc**  
 Address: **23 Spring St**  
 City: **Wolpote**  
 State and Zip: **MA 01081**  
 Client's Phone: **508-668-0033**  
 Client's Contact Email: **vip@innovativeengineering.com**  
 Client's Project Name/Number: **Reservoir Wastewater RA-008**  
 Sample Collection Site Name & Location: **Wolpote MA**

**Sample Information:**  
 Sample Collector's Name (Please Print Neatly): **Drew Sobel**  
 Sample Collector's Phone: **508-404-3196**  
 Due Date Requested: **7/18/17**  
 Turnaround Time (TAT) Requested (business days): **5 days**  
 Quote # or Project #: **RA-008**  
 PO #:  
 WO #:  
 PWS ID #:

Sample Identification	Sample Collection Date (MM/DD/YY)	Sample Collection Time (24 Hour Clock)	Sample Type: C=Comp G=Grab	Matrix Type **	Analysis Requested										Total Number of Containers (enter total for each line)	Special Instructions & Notes:
					A	A	N	D	N	N	N	N	N	N		
mw-963M - 20170711	7/11/17	0935	G	W	X	X	X	X	X	X	X	X	X	X	12	
mw-562 - 20170711	7/11/17	0830	G	W	X	X	X	X	X	X	X	X	X	X	12	no
mw-563 - 20170711	7/11/17	1150	G	W	X	X	X	X	X	X	X	X	X	X	12	no
REW-7 - 20170711	7/11/17	1240	G	W	X	X	X	X	X	X	X	X	X	X	12	no
REW-12 - 20170711	7/11/17	1045	G	W	X	X	X	X	X	X	X	X	X	X	12	no
Temp Blank	-	-	-	W	X										2	

**Possible Hazard Identification (please check off each that may apply):**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological

**\*\* Matrix Types:** A=Air S=Solid/Soil W=Water O=Oil X=Waste (non-water) Z=Other:

Relinquished by: **[Signature]** Company: **TEST**  
 Relinquished by: **[Signature]** Company: **TEST**  
 Relinquished by: **[Signature]** Company: **TEST**

Date/Time: **7/11/17 1330**  
 Date/Time: **7-11-17 1800**  
 Date/Time: **7-12-17 0130**

Custody Seal No.: **24 #1**  
 Cooler Temperature(s) °C and Other Remarks:







## ANALYTICAL REPORT

Lab Number:	L1723488
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:	07/18/17

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

<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>
L1723488-01	MW-265M-20170711	WATER	WAYLAND, MA	07/11/17 09:33	07/11/17
L1723488-02	MW-267S-20170710	WATER	WAYLAND, MA	07/10/17 12:10	07/11/17
L1723488-03	MW-268S-20170710	WATER	WAYLAND, MA	07/10/17 08:55	07/11/17
L1723488-04	MW-268M-20170710	WATER	WAYLAND, MA	07/10/17 09:35	07/11/17
L1723488-05	MW-562-20170711	WATER	WAYLAND, MA	07/11/17 08:30	07/11/17
L1723488-06	MW-563-20170711	WATER	WAYLAND, MA	07/11/17 11:50	07/11/17
L1723488-07	REW-6-20170710	WATER	WAYLAND, MA	07/10/17 11:30	07/11/17
L1723488-08	REW-7-20170711	WATER	WAYLAND, MA	07/11/17 12:40	07/11/17
L1723488-09	REW-11-20170710	WATER	WAYLAND, MA	07/10/17 10:25	07/11/17
L1723488-10	REW-12-20170711	WATER	WAYLAND, MA	07/11/17 10:45	07/11/17

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

### 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.

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

### Case Narrative (continued)

#### Dissolved Gases

L1723488-01, -02, -04, -05, -06, -07, -08, -09 and -10: The samples were re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L1723488-01, -02, -05, -07 and -10 were collected in pre-preserved vials; however, the pH of the samples was determined to be greater than two.

The WG1023006-5 MS recovery, performed on L1723488-03, is outside the acceptance criteria for methane (165%). The unacceptable percent recoveries are 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: 07/18/17

# ORGANICS

# VOLATILES

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-01  
 Client ID: MW-265M-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 09:33  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 11:42  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	18400	E	ug/l	3.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	2.61		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-01 D  
 Client ID: MW-265M-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 09:33  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 11:35  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	20200		ug/l	15.0	--	5	A



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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-02  
 Client ID: MW-267S-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 12:10  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 11:56  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	21500	E	ug/l	3.00	--	1	A
Ethene	3.86		ug/l	0.500	--	1	A
Ethane	1.18		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-02 D  
 Client ID: MW-267S-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 12:10  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 14:26  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	15900		ug/l	15.0	--	5	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-03  
 Client ID: MW-268S-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 08:55  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 12:12  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	5420		ug/l	3.00	--	1	A
Ethene	0.865		ug/l	0.500	--	1	A
Ethane	0.813		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-04  
 Client ID: MW-268M-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 09:35  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 12:26  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	37800	E	ug/l	3.00	--	1	A
Ethene	9.38		ug/l	0.500	--	1	A
Ethane	6.95		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-04 D  
 Client ID: MW-268M-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 09:35  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 11:49  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	38100		ug/l	15.0	--	5	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-05  
 Client ID: MW-562-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 08:30  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 12:41  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	23000	E	ug/l	3.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	0.608		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-05 D  
 Client ID: MW-562-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 08:30  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 12:04  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	21900		ug/l	15.0	--	5	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-06  
 Client ID: MW-563-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 11:50  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 12:56  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	40900	E	ug/l	3.00	--	1	A
Ethene	1.37		ug/l	0.500	--	1	A
Ethane	2.94		ug/l	0.500	--	1	A



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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-06 D  
 Client ID: MW-563-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 11:50  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 12:21  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	32000		ug/l	30.0	--	10	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-07  
 Client ID: REW-6-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 11:30  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 13:11  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	34500	E	ug/l	3.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	6.45		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-07 D  
 Client ID: REW-6-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 11:30  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 12:35  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	30500		ug/l	30.0	--	10	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-08  
 Client ID: REW-7-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 12:40  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 13:26  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	42000	E	ug/l	3.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	14.5		ug/l	0.500	--	1	A

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L1723488**Project Number:** RA-008**Report Date:** 07/18/17**SAMPLE RESULTS**

Lab ID: L1723488-08 D

Date Collected: 07/11/17 12:40

Client ID: REW-7-20170711

Date Received: 07/11/17

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Matrix: Water

Analytical Method: 117,-

Analytical Date: 07/17/17 12:49

Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	34300		ug/l	30.0	--	10	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-09  
 Client ID: REW-11-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 10:25  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 13:41  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	42200	E	ug/l	3.00	--	1	A
Ethene	2.04		ug/l	0.500	--	1	A
Ethane	21.3		ug/l	0.500	--	1	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-09 D  
 Client ID: REW-11-20170710  
 Sample Location: WAYLAND, MA

Date Collected: 07/10/17 10:25  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 13:04  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	37800		ug/l	30.0	--	10	A

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-10  
 Client ID: REW-12-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 10:45  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/16/17 13:56  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	36100	E	ug/l	3.00	--	1	A
Ethene	2.50		ug/l	0.500	--	1	A
Ethane	8.92		ug/l	0.500	--	1	A



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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

**SAMPLE RESULTS**

Lab ID: L1723488-10 D  
 Client ID: REW-12-20170711  
 Sample Location: WAYLAND, MA

Date Collected: 07/11/17 10:45  
 Date Received: 07/11/17  
 Field Prep: Not Specified

Matrix: Water  
 Analytical Method: 117,-  
 Analytical Date: 07/17/17 13:18  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	31200		ug/l	30.0	--	10	A

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L1723488**Project Number:** RA-008**Report Date:** 07/18/17**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 117,-  
Analytical Date: 07/16/17 11:14  
Analyst: LB

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Dissolved Gases by GC - Mansfield Lab for sample(s): 01-10 Batch: WG1023006-3					
Methane	ND		ug/l	3.00	-- A
Ethene	ND		ug/l	0.500	-- A
Ethane	ND		ug/l	0.500	-- A

Project Name: RAYTHEON WAYLAND

Lab Number: L1723488

Project Number: RA-008

Report Date: 07/18/17

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

Analytical Method: 117,-  
 Analytical Date: 07/17/17 10:39  
 Analyst: LB

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases by GC - Mansfield Lab for sample(s): 01-02,04-10 Batch: WG1023006-8					
Methane	ND		ug/l	3.00	-- 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:** L1723488

**Report Date:** 07/18/17

<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): 01-10 Batch: WG1023006-2									
Methane	117		-		80-120	-		25	A
Ethene	107		-		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:** L1723488  
**Report Date:** 07/18/17

<b>Parameter</b>	<b>Native Sample</b>	<b>MS Added</b>	<b>MS Found</b>	<b>MS %Recovery</b>	<b>Qual</b>	<b>MSD Found</b>	<b>MSD %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): 01-10 QC Batch ID: WG1023006-5 QC Sample: L1723488-03 Client ID: MW-268S-20170710													
Methane	5420	54.6	5510	165	Q	-	-		80-120	-		25	A
Ethene	0.865	95.5	104	108		-	-		80-120	-		25	A
Ethane	0.813	102	110	107		-	-		80-120	-		25	A

## Lab Duplicate Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Project Number: RA-008

Lab Number: L1723488

Report Date: 07/18/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1023006-4 QC Sample: L1723488-03 Client ID: MW-268S-20170710						
Methane	5420	5390	ug/l	1		25 A
Ethene	0.865	0.957	ug/l	10		25 A
Ethane	0.813	0.901	ug/l	10		25 A

**Project Name:** RAYTHEON WAYLAND**Lab Number:** L1723488**Project Number:** RA-008**Report Date:** 07/18/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1723488-01A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-01B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-02A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-02B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-03A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-03B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-04A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-04B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-05A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-05B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-06A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-06B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-07A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-07B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-08A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-08B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-09A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-09B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-10A	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)
L1723488-10B	20ml Vial HCl preserved	A	NA		3.5	Y	Absent		DISSGAS(14)

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

**Lab Number:** L1723488  
**Report Date:** 07/18/17

## 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

**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.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**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.

### 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

Report Format: Data Usability Report





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

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**Report Date:** 07/18/17

#### Data Qualifiers

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 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:** L1723488  
**Report Date:** 07/18/17

## 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.



## Certification Information

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

### Westborough Facility

**EPA 624:** m/p-xylene, o-xylene

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

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

**EPA 300:** DW: Bromide

**EPA 6860:** NPW and SCM: Perchlorate

**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation

**EPA 9012B:** NPW: Total Cyanide

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

**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

**SM 2540D:** TSS

**EPA 3005A** NPW

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

**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.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**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; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, 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, SM9221E.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

#### Non-Potable Water

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

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

**EPA 245.1 Hg.**

**SM2340B**

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



# CHAIN OF CUSTODY

PAGE 1 OF 1

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

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

## Client Information

Client: Innovative Engineering Solutions Inc  
Address: 25 Spring St  
Waldpole MA 02081  
Phone: 508-668-0033  
Email: v.pariyer@IESIonline.com

Additional Project Information:

## Project Information

Project Name: Ryantheon - Wayland  
Project Location: Wayland MA  
Project #: RA-008  
Project Manager: Vicki Pariyer  
ALPHA Quote #:

## Turn-Around Time

Standard  RUSH 3 days  
(only confirmed if pre-approved!)  
Date Due: 7/11/17

Date Rec'd in Lab: 7/11/17

ALPHA Job #: L1723488

## 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		SAMPLE INFO	
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2		Filtration	
SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH		<input type="checkbox"/> Field	
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15		<input type="checkbox"/> Lab to do	
EPH: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PP13		Preservation	
VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		<input type="checkbox"/> Lab to do	
PCB <input type="checkbox"/> PEST			
TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint			
<i>Dissolved Cycles meth base ethane ethene</i>		Sample Comments	TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS	SAMPLE INFO	Sample Comments	TOTAL # BOTTLES
		Date	Time						
3488-01	MW-265M-20170711	7/11/17	0933	CW	JP			CW-3	2
-02	MW-267 <sup>5</sup> -20170710	7/10/17	1210	CW	JP			Requirements	2
-03	MW-268 <sup>5</sup> -20170710	7/10/17	0855	CW	JP				2
-04	MW-268M-20170710	7/10/17	0935	CW	JP				2
-05	MW-562-20170711	7/11/17	0830	CW	JP				2
-06	MW-563-20170711	7/11/17	1150	CW	JP				2
-07	RZW-6-20170710	7/10/17	1130	CW	JP				2
-08	RZW-7-20170711	7/11/17	1240	CW	JP				2
-09	RZW-11-20170710	7/10/17	1025	CW	JP			Temp Blank included	2
-10	RZW-12-20170711	7/11/17	1045	CW	JP				2

- 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	V
Preservative	A

Relinquished By: [Signature] Date/Time: 7/11/17 1420  
Received By: [Signature] Date/Time: 7/11/17 14:20

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