Environmental Resources Management

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

http://www.erm.com

23 August 2018
Reference: 0437996

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 nine monitoring wells located on National Development property in July 2018. 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,

Lyndsey Colburn, P.G.
Partner-in-Charge

Larry Mastera
Project Manager

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

3 - 13302

NOTICE OF ENVIRONMENTAL SAMPLING

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

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

1. Street Address: 430 Boston Post Road

City/Town: Wayland Zip Code: 01778

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

1. Name: National Development
2. Street Address: 2310 Washington Street

City/Town: Newton Lower Falls Zip Code: 02462

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

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

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

1. Street Address: 430 Boston Post Road

City/Town: Wayland Zip Code: 01778

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

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ 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.

Collection of groundwater samples from existing monitoring wells

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

Contact Name: Jonathan Hone, Raytheon Company
Street Address: 50 Apple Hill Drive
City/Town: Tewksbury Zip Code: 01876
Telephone: (978) 858-4784 Email: Jonathan_R_Hone@raytheon.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 13302

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: 480-138614-1
Client Project/Site: IDS Wayland

For:
Innovative Engineering Solutions, Inc
25 Spring Street
Walpole, Massachusetts 02081

Attn: Vicki Pariyar

Authorized for release by:
7/23/2018 4:28:29 PM

Becky Mason, Project Manager II
(413)572-4000
becky.mason@testamericainc.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
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.
¤	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)

Job ID: 480-138614-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-138614-1

Receipt
The samples were received on 7/11/2018 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4º 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: Due to the dilutions required, per question G on the MassDEP Analytical Protocol Certification Form, the CAM reporting limits specified in this CAM protocol could not be achieved for some or all samples/analytes.

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-424051 recovered outside control limits but were greater than 10% for the following analytes: 2-Hexanone . MCP protocol allows for 10% of the target compounds to be outside of the limits provided the recoveries are over 10%. The following samples are impacted: MW-267S-20180710 (480-138614-1), MW-268S-20180710 (480-138614-2), MW-268M-20180710 (480-138614-3), REW-11-20180710 (480-138614-4), REW-12-20180710 (480-138614-5) and TRIP BLANKS (480-138614-6).

Method 8260C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch analytical batch 480-424051 recovered outside control limits for the following analytes: Tetrahydrofuran.

Method 8260C: The following samples were diluted due to the abundance of non-target analytes: MW-267S-20180710 (480-138614-1) and REW-11-20180710 (480-138614-4). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-268S-20180710 (480-138614-2) and MW-268M-20180710 (480-138614-3). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample(s) 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: REW-11-20180710 (480-138614-4).
The sample was analyzed within 7 days per EPA recommendation.

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-424087 exceeded control limits for the following analyte: 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: DUP-20180710 (480-138614-7).

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 were diluted to bring the concentration of target analytes within the calibration range: MW-267S-20180710 (480-138614-1), MW-268M-20180710 (480-138614-3), REW-11-20180710 (480-138614-4) and REW-12-20180710 (480-138614-5). Elevated reporting limits (RLs) are provided.

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

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

Job ID: 480-138614-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

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

General Chemistry
Method SM 2320B: The following sample was received with headspace in the sample container. This sample container was received with headspace. MW-268M-20180710 (480-138614-3).

Method 350.1: Samples were diluted due to excessive foaming / boil over during distillation. MW-267S-20180710 (480-138614-1) and REW-11-20180710 (480-138614-4)

Method SM 4500 P E: The continuing calibration verification (CCV) associated with batch 480-424001 recovered below the lower control limit for ortho-Phosphate. Due to holding time limitations, the data has been reported. The following samples are impacted: MW-267S-20180710 (480-138614-1), MW-268S-20180710 (480-138614-2), MW-268M-20180710 (480-138614-3), REW-11-20180710 (480-138614-4), REW-12-20180710 (480-138614-5), (480-138614-D-2 MS) and (480-138614-D-2 MSD).

Method 9040C: 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-20180710 (480-138614-1), MW-268S-20180710 (480-138614-2), MW-268M-20180710 (480-138614-3), REW-11-20180710 (480-138614-4) and REW-12-20180710 (480-138614-5).

Method Nitrate by calc: An abnormal interparameter relationship exists between Nitrate-Nitrite and Nitrite results. Reanalysis was performed and the anomaly was confirmed. MW-267S-20180710 (480-138614-1)

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 #:	**480-138614-1**
Project Location:	**Wayland MA**	RTN:	

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

480-138614-1[1-7]

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

CAM Protocols (check all that apply below):

8260 VOC CAM II A ■	7470/7471 Hg CAM III B ☐	Mass DEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	Mass DEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	Mass DEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ■	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 / 9014/ 4500CN Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

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

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

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ■ No[1]

***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**

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ■ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?	☐ Yes ■ No[1]

[1] 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:	Becky Mason	Position:	Project Manager
Printed Name:	Becky Mason	Date:	7/23/18 16:26

This form has been electronically signed and approved

Detection Summary

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: MW-267S-20180710 — Lab Sample ID: 480-138614-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	470		200		ug/L	20		8260C	Total/NA
cis-1,2-Dichloroethene	36		20		ug/L	20		8260C	Total/NA
Toluene	110		20		ug/L	20		8260C	Total/NA
Vinyl chloride	26		20		ug/L	20		8260C	Total/NA
Iron	630		0.25		mg/L	5		6010	Total/NA
Chloride	20		2.5		mg/L	5		300.0	Total/NA
Ammonia	0.42		0.40		mg/L	1		350.1	Total/NA
TOC Result 1	4.1		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	4.2		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	4.2		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	800		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.11	^	0.020		mg/L	1		SM 4500 P E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.1	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.4	HF	0.001		Degrees C	1		9040C	Total/NA

Client Sample ID: MW-268S-20180710 — Lab Sample ID: 480-138614-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	69		4.0		ug/L	4		8260C	Total/NA
Trichloroethene	190		4.0		ug/L	4		8260C	Total/NA
Iron	0.53		0.050		mg/L	1		6010	Total/NA
Chloride	17		0.50		mg/L	1		300.0	Total/NA
Sulfate	22		2.0		mg/L	1		300.0	Total/NA
TOC Result 1	23		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	22		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	22		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	100		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.065	^	0.020		mg/L	1		SM 4500 P E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.9	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.3	HF	0.001		Degrees C	1		9040C	Total/NA

Client Sample ID: MW-268M-20180710 — Lab Sample ID: 480-138614-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	2.2		2.0		ug/L	2		8260C	Total/NA
cis-1,2-Dichloroethene	19		2.0		ug/L	2		8260C	Total/NA
Toluene	3.9		2.0		ug/L	2		8260C	Total/NA
Vinyl chloride	55		2.0		ug/L	2		8260C	Total/NA
Iron	58		0.050		mg/L	1		6010	Total/NA
Chloride	34		1.0		mg/L	2		300.0	Total/NA
Nitrate as N	0.070		0.050		mg/L	1		353.2	Total/NA
TOC Result 1	2.7		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	2.8		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	2.7		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	360		5.0		mg/L	1		SM 2320B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	8.0	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.1	HF	0.001		Degrees C	1		9040C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: REW-11-20180710 — Lab Sample ID: 480-138614-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	590		200		ug/L	20		8260C	Total/NA
Toluene	22		20		ug/L	20		8260C	Total/NA
Iron	230		0.050		mg/L	1		6010	Total/NA
Chloride	33		5.0		mg/L	10		300.0	Total/NA
Ammonia	0.47		0.40		mg/L	1		350.1	Total/NA
TOC Result 1	5100		80		mg/L	80		9060A	Total/NA
TOC Result 2	5000		80		mg/L	80		9060A	Total/NA
Total Organic Carbon - Duplicates	5000		80		mg/L	80		9060A	Total/NA
Alkalinity, Total	950		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.82	^	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: REW-12-20180710 — Lab Sample ID: 480-138614-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	46		0.050		mg/L	1		6010	Total/NA
Chloride	35		1.0		mg/L	2		300.0	Total/NA
Ammonia	11		2.0		mg/L	10		350.1	Total/NA
Nitrate as N	0.074		0.050		mg/L	1		353.2	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	1400		20		mg/L	20		9060A	Total/NA
Alkalinity, Total	300		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.11	^	0.020		mg/L	1		SM 4500 P E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	HF	0.1		SU	1		9040C	Total/NA
Temperature	21.0	HF	0.001		Degrees C	1		9040C	Total/NA

Client Sample ID: TRIP BLANKS — Lab Sample ID: 480-138614-6

No Detections.

Client Sample ID: DUP-20180710 — Lab Sample ID: 480-138614-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-267S-20180710
Date Collected: 07/10/18 11:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		20		ug/L			07/12/18 02:39	20
1,1,1-Trichloroethane	ND		20		ug/L			07/12/18 02:39	20
1,1,2,2-Tetrachloroethane	ND		10		ug/L			07/12/18 02:39	20
1,1,2-Trichloroethane	ND		20		ug/L			07/12/18 02:39	20
1,1-Dichloroethane	ND		20		ug/L			07/12/18 02:39	20
1,1-Dichloroethene	ND		20		ug/L			07/12/18 02:39	20
1,1-Dichloropropene	ND		20		ug/L			07/12/18 02:39	20
1,2,3-Trichlorobenzene	ND		20		ug/L			07/12/18 02:39	20
1,2,3-Trichloropropane	ND		20		ug/L			07/12/18 02:39	20
1,2,4-Trichlorobenzene	ND		20		ug/L			07/12/18 02:39	20
1,2,4-Trimethylbenzene	ND		20		ug/L			07/12/18 02:39	20
1,2-Dibromo-3-Chloropropane	ND		100		ug/L			07/12/18 02:39	20
1,2-Dichlorobenzene	ND		20		ug/L			07/12/18 02:39	20
1,2-Dichloroethane	ND		20		ug/L			07/12/18 02:39	20
1,2-Dichloropropane	ND		20		ug/L			07/12/18 02:39	20
1,3,5-Trimethylbenzene	ND		20		ug/L			07/12/18 02:39	20
1,3-Dichlorobenzene	ND		20		ug/L			07/12/18 02:39	20
1,3-Dichloropropane	ND		20		ug/L			07/12/18 02:39	20
1,4-Dichlorobenzene	ND		20		ug/L			07/12/18 02:39	20
1,4-Dioxane	ND		1000		ug/L			07/12/18 02:39	20
2,2-Dichloropropane	ND		20		ug/L			07/12/18 02:39	20
2-Butanone (MEK)	**470**		200		ug/L			07/12/18 02:39	20
2-Chlorotoluene	ND		20		ug/L			07/12/18 02:39	20
2-Hexanone	ND	*	200		ug/L			07/12/18 02:39	20
4-Chlorotoluene	ND		20		ug/L			07/12/18 02:39	20
4-Isopropyltoluene	ND		20		ug/L			07/12/18 02:39	20
4-Methyl-2-pentanone (MIBK)	ND		200		ug/L			07/12/18 02:39	20
Acetone	ND		1000		ug/L			07/12/18 02:39	20
Benzene	ND		20		ug/L			07/12/18 02:39	20
Bromobenzene	ND		20		ug/L			07/12/18 02:39	20
Bromoform	ND		20		ug/L			07/12/18 02:39	20
Bromomethane	ND		40		ug/L			07/12/18 02:39	20
Carbon disulfide	ND		200		ug/L			07/12/18 02:39	20
Carbon tetrachloride	ND		20		ug/L			07/12/18 02:39	20
Chlorobenzene	ND		20		ug/L			07/12/18 02:39	20
Chlorobromomethane	ND		20		ug/L			07/12/18 02:39	20
Chlorodibromomethane	ND		10		ug/L			07/12/18 02:39	20
Chloroethane	ND		40		ug/L			07/12/18 02:39	20
Chloroform	ND		20		ug/L			07/12/18 02:39	20
Chloromethane	ND		40		ug/L			07/12/18 02:39	20
cis-1,2-Dichloroethene	**36**		20		ug/L			07/12/18 02:39	20
cis-1,3-Dichloropropene	ND		8.0		ug/L			07/12/18 02:39	20
Dichlorobromomethane	ND		10		ug/L			07/12/18 02:39	20
Dichlorodifluoromethane	ND		20		ug/L			07/12/18 02:39	20
Ethyl ether	ND		20		ug/L			07/12/18 02:39	20
Ethylbenzene	ND		20		ug/L			07/12/18 02:39	20
Ethylene Dibromide	ND		20		ug/L			07/12/18 02:39	20
Hexachlorobutadiene	ND		8.0		ug/L			07/12/18 02:39	20
Isopropyl ether	ND		200		ug/L			07/12/18 02:39	20

Client Sample ID: MW-267S-20180710
Date Collected: 07/10/18 11:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		20		ug/L			07/12/18 02:39	20
Methyl tert-butyl ether	ND		20		ug/L			07/12/18 02:39	20
Methylene Chloride	ND		20		ug/L			07/12/18 02:39	20
m-Xylene & p-Xylene	ND		40		ug/L			07/12/18 02:39	20
Naphthalene	ND		100		ug/L			07/12/18 02:39	20
n-Butylbenzene	ND		20		ug/L			07/12/18 02:39	20
N-Propylbenzene	ND		20		ug/L			07/12/18 02:39	20
o-Xylene	ND		20		ug/L			07/12/18 02:39	20
sec-Butylbenzene	ND		20		ug/L			07/12/18 02:39	20
Styrene	ND		20		ug/L			07/12/18 02:39	20
Tert-amyl methyl ether	ND		100		ug/L			07/12/18 02:39	20
Tert-butyl ethyl ether	ND		100		ug/L			07/12/18 02:39	20
tert-Butylbenzene	ND		20		ug/L			07/12/18 02:39	20
Tetrachloroethene	ND		20		ug/L			07/12/18 02:39	20
Tetrahydrofuran	ND	*	200		ug/L			07/12/18 02:39	20
Toluene	**110**		20		ug/L			07/12/18 02:39	20
trans-1,2-Dichloroethene	ND		20		ug/L			07/12/18 02:39	20
trans-1,3-Dichloropropene	ND		8.0		ug/L			07/12/18 02:39	20
Trichloroethene	ND		20		ug/L			07/12/18 02:39	20
Trichlorofluoromethane	ND		20		ug/L			07/12/18 02:39	20
Vinyl chloride	**26**		20		ug/L			07/12/18 02:39	20
Dibromomethane	ND		20		ug/L			07/12/18 02:39	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/12/18 02:39*	*20*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*07/12/18 02:39*	*20*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/12/18 02:39*	*20*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**630**		0.25		mg/L		07/13/18 09:01	07/13/18 19:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20**		2.5		mg/L			07/17/18 20:36	5
Sulfate	ND		10		mg/L			07/17/18 20:36	5
Ammonia	**0.42**		0.40		mg/L		07/13/18 18:41	07/16/18 09:38	1
Nitrate as N	ND		0.050		mg/L			07/11/18 21:20	1
TOC Result 1	**4.1**		1.0		mg/L			07/18/18 12:15	1
TOC Result 2	**4.2**		1.0		mg/L			07/18/18 12:15	1
Total Organic Carbon - Duplicates	**4.2**		1.0		mg/L			07/18/18 12:15	1
Alkalinity, Total	**800**		5.0		mg/L			07/11/18 14:27	1
ortho-Phosphate	**0.11**	**^**	0.020		mg/L			07/11/18 10:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.1**	**HF**	0.1		SU			07/18/18 08:29	1
Temperature	**21.4**	**HF**	0.001		Degrees C			07/18/18 08:29	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: MW-268S-20180710
Date Collected: 07/10/18 08:20
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-2
Matrix: Water

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			07/12/18 03:07	4
1,1,1-Trichloroethane	ND		4.0		ug/L			07/12/18 03:07	4
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/12/18 03:07	4
1,1,2-Trichloroethane	ND		4.0		ug/L			07/12/18 03:07	4
1,1-Dichloroethane	ND		4.0		ug/L			07/12/18 03:07	4
1,1-Dichloroethene	ND		4.0		ug/L			07/12/18 03:07	4
1,1-Dichloropropene	ND		4.0		ug/L			07/12/18 03:07	4
1,2,3-Trichlorobenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,2,3-Trichloropropane	ND		4.0		ug/L			07/12/18 03:07	4
1,2,4-Trichlorobenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,2,4-Trimethylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/12/18 03:07	4
1,2-Dichlorobenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,2-Dichloroethane	ND		4.0		ug/L			07/12/18 03:07	4
1,2-Dichloropropane	ND		4.0		ug/L			07/12/18 03:07	4
1,3,5-Trimethylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,3-Dichlorobenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,3-Dichloropropane	ND		4.0		ug/L			07/12/18 03:07	4
1,4-Dichlorobenzene	ND		4.0		ug/L			07/12/18 03:07	4
1,4-Dioxane	ND		200		ug/L			07/12/18 03:07	4
2,2-Dichloropropane	ND		4.0		ug/L			07/12/18 03:07	4
2-Butanone (MEK)	ND		40		ug/L			07/12/18 03:07	4
2-Chlorotoluene	ND		4.0		ug/L			07/12/18 03:07	4
2-Hexanone	ND	*	40		ug/L			07/12/18 03:07	4
4-Chlorotoluene	ND		4.0		ug/L			07/12/18 03:07	4
4-Isopropyltoluene	ND		4.0		ug/L			07/12/18 03:07	4
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			07/12/18 03:07	4
Acetone	ND		200		ug/L			07/12/18 03:07	4
Benzene	ND		4.0		ug/L			07/12/18 03:07	4
Bromobenzene	ND		4.0		ug/L			07/12/18 03:07	4
Bromoform	ND		4.0		ug/L			07/12/18 03:07	4
Bromomethane	ND		8.0		ug/L			07/12/18 03:07	4
Carbon disulfide	ND		40		ug/L			07/12/18 03:07	4
Carbon tetrachloride	ND		4.0		ug/L			07/12/18 03:07	4
Chlorobenzene	ND		4.0		ug/L			07/12/18 03:07	4
Chlorobromomethane	ND		4.0		ug/L			07/12/18 03:07	4
Chlorodibromomethane	ND		2.0		ug/L			07/12/18 03:07	4
Chloroethane	ND		8.0		ug/L			07/12/18 03:07	4
Chloroform	ND		4.0		ug/L			07/12/18 03:07	4
Chloromethane	ND		8.0		ug/L			07/12/18 03:07	4
cis-1,2-Dichloroethene	**69**		4.0		ug/L			07/12/18 03:07	4
cis-1,3-Dichloropropene	ND		1.6		ug/L			07/12/18 03:07	4
Dichlorobromomethane	ND		2.0		ug/L			07/12/18 03:07	4
Dichlorodifluoromethane	ND		4.0		ug/L			07/12/18 03:07	4
Ethyl ether	ND		4.0		ug/L			07/12/18 03:07	4
Ethylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
Ethylene Dibromide	ND		4.0		ug/L			07/12/18 03:07	4
Hexachlorobutadiene	ND		1.6		ug/L			07/12/18 03:07	4
Isopropyl ether	ND		40		ug/L			07/12/18 03:07	4

Client Sample ID: MW-268S-20180710
Date Collected: 07/10/18 08:20
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-2
Matrix: Water

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			07/12/18 03:07	4
Methyl tert-butyl ether	ND		4.0		ug/L			07/12/18 03:07	4
Methylene Chloride	ND		4.0		ug/L			07/12/18 03:07	4
m-Xylene & p-Xylene	ND		8.0		ug/L			07/12/18 03:07	4
Naphthalene	ND		20		ug/L			07/12/18 03:07	4
n-Butylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
N-Propylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
o-Xylene	ND		4.0		ug/L			07/12/18 03:07	4
sec-Butylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
Styrene	ND		4.0		ug/L			07/12/18 03:07	4
Tert-amyl methyl ether	ND		20		ug/L			07/12/18 03:07	4
Tert-butyl ethyl ether	ND		20		ug/L			07/12/18 03:07	4
tert-Butylbenzene	ND		4.0		ug/L			07/12/18 03:07	4
Tetrachloroethene	ND		4.0		ug/L			07/12/18 03:07	4
Tetrahydrofuran	ND	*	40		ug/L			07/12/18 03:07	4
Toluene	ND		4.0		ug/L			07/12/18 03:07	4
trans-1,2-Dichloroethene	ND		4.0		ug/L			07/12/18 03:07	4
trans-1,3-Dichloropropene	ND		1.6		ug/L			07/12/18 03:07	4
Trichloroethene	**190**		4.0		ug/L			07/12/18 03:07	4
Trichlorofluoromethane	ND		4.0		ug/L			07/12/18 03:07	4
Vinyl chloride	ND		4.0		ug/L			07/12/18 03:07	4
Dibromomethane	ND		4.0		ug/L			07/12/18 03:07	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*07/12/18 03:07*	*4*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 130*		*07/12/18 03:07*	*4*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*07/12/18 03:07*	*4*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.53**		0.050		mg/L		07/13/18 09:01	07/13/18 19:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		0.50		mg/L			07/17/18 20:44	1
Sulfate	**22**		2.0		mg/L			07/17/18 20:44	1
Ammonia	ND		0.20		mg/L		07/13/18 18:41	07/16/18 09:39	1
Nitrate as N	ND		0.050		mg/L			07/11/18 18:48	1
TOC Result 1	**23**		1.0		mg/L			07/18/18 12:43	1
TOC Result 2	**22**		1.0		mg/L			07/18/18 12:43	1
Total Organic Carbon - Duplicates	**22**		1.0		mg/L			07/18/18 12:43	1
Alkalinity, Total	**100**		5.0		mg/L			07/11/18 14:32	1
ortho-Phosphate	**0.065**	**^**	0.020		mg/L			07/11/18 10:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.9**	**HF**	0.1		SU			07/18/18 08:32	1
Temperature	**21.3**	**HF**	0.001		Degrees C			07/18/18 08:32	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: MW-268M-20180710
Date Collected: 07/10/18 09:05
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-3
Matrix: Water

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			07/12/18 03:36	2
1,1,1-Trichloroethane	ND		2.0		ug/L			07/12/18 03:36	2
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/12/18 03:36	2
1,1,2-Trichloroethane	ND		2.0		ug/L			07/12/18 03:36	2
1,1-Dichloroethane	**2.2**		2.0		ug/L			07/12/18 03:36	2
1,1-Dichloroethene	ND		2.0		ug/L			07/12/18 03:36	2
1,1-Dichloropropene	ND		2.0		ug/L			07/12/18 03:36	2
1,2,3-Trichlorobenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,2,3-Trichloropropane	ND		2.0		ug/L			07/12/18 03:36	2
1,2,4-Trichlorobenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			07/12/18 03:36	2
1,2-Dichlorobenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,2-Dichloroethane	ND		2.0		ug/L			07/12/18 03:36	2
1,2-Dichloropropane	ND		2.0		ug/L			07/12/18 03:36	2
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,3-Dichlorobenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,3-Dichloropropane	ND		2.0		ug/L			07/12/18 03:36	2
1,4-Dichlorobenzene	ND		2.0		ug/L			07/12/18 03:36	2
1,4-Dioxane	ND		100		ug/L			07/12/18 03:36	2
2,2-Dichloropropane	ND		2.0		ug/L			07/12/18 03:36	2
2-Butanone (MEK)	ND		20		ug/L			07/12/18 03:36	2
2-Chlorotoluene	ND		2.0		ug/L			07/12/18 03:36	2
2-Hexanone	ND	*	20		ug/L			07/12/18 03:36	2
4-Chlorotoluene	ND		2.0		ug/L			07/12/18 03:36	2
4-Isopropyltoluene	ND		2.0		ug/L			07/12/18 03:36	2
4-Methyl-2-pentanone (MIBK)	ND		20		ug/L			07/12/18 03:36	2
Acetone	ND		100		ug/L			07/12/18 03:36	2
Benzene	ND		2.0		ug/L			07/12/18 03:36	2
Bromobenzene	ND		2.0		ug/L			07/12/18 03:36	2
Bromoform	ND		2.0		ug/L			07/12/18 03:36	2
Bromomethane	ND		4.0		ug/L			07/12/18 03:36	2
Carbon disulfide	ND		20		ug/L			07/12/18 03:36	2
Carbon tetrachloride	ND		2.0		ug/L			07/12/18 03:36	2
Chlorobenzene	ND		2.0		ug/L			07/12/18 03:36	2
Chlorobromomethane	ND		2.0		ug/L			07/12/18 03:36	2
Chlorodibromomethane	ND		1.0		ug/L			07/12/18 03:36	2
Chloroethane	ND		4.0		ug/L			07/12/18 03:36	2
Chloroform	ND		2.0		ug/L			07/12/18 03:36	2
Chloromethane	ND		4.0		ug/L			07/12/18 03:36	2
cis-1,2-Dichloroethene	**19**		2.0		ug/L			07/12/18 03:36	2
cis-1,3-Dichloropropene	ND		0.80		ug/L			07/12/18 03:36	2
Dichlorobromomethane	ND		1.0		ug/L			07/12/18 03:36	2
Dichlorodifluoromethane	ND		2.0		ug/L			07/12/18 03:36	2
Ethyl ether	ND		2.0		ug/L			07/12/18 03:36	2
Ethylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
Ethylene Dibromide	ND		2.0		ug/L			07/12/18 03:36	2
Hexachlorobutadiene	ND		0.80		ug/L			07/12/18 03:36	2
Isopropyl ether	ND		20		ug/L			07/12/18 03:36	2

Client Sample ID: MW-268M-20180710
Date Collected: 07/10/18 09:05
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-3
Matrix: Water

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			07/12/18 03:36	2
Methyl tert-butyl ether	ND		2.0		ug/L			07/12/18 03:36	2
Methylene Chloride	ND		2.0		ug/L			07/12/18 03:36	2
m-Xylene & p-Xylene	ND		4.0		ug/L			07/12/18 03:36	2
Naphthalene	ND		10		ug/L			07/12/18 03:36	2
n-Butylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
N-Propylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
o-Xylene	ND		2.0		ug/L			07/12/18 03:36	2
sec-Butylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
Styrene	ND		2.0		ug/L			07/12/18 03:36	2
Tert-amyl methyl ether	ND		10		ug/L			07/12/18 03:36	2
Tert-butyl ethyl ether	ND		10		ug/L			07/12/18 03:36	2
tert-Butylbenzene	ND		2.0		ug/L			07/12/18 03:36	2
Tetrachloroethene	ND		2.0		ug/L			07/12/18 03:36	2
Tetrahydrofuran	ND	*	20		ug/L			07/12/18 03:36	2
Toluene	**3.9**		2.0		ug/L			07/12/18 03:36	2
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/12/18 03:36	2
trans-1,3-Dichloropropene	ND		0.80		ug/L			07/12/18 03:36	2
Trichloroethene	ND		2.0		ug/L			07/12/18 03:36	2
Trichlorofluoromethane	ND		2.0		ug/L			07/12/18 03:36	2
Vinyl chloride	**55**		2.0		ug/L			07/12/18 03:36	2
Dibromomethane	ND		2.0		ug/L			07/12/18 03:36	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/12/18 03:36*	*2*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*07/12/18 03:36*	*2*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*07/12/18 03:36*	*2*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**58**		0.050		mg/L		07/13/18 09:01	07/13/18 20:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34**		1.0		mg/L			07/17/18 20:52	2
Sulfate	ND		4.0		mg/L			07/17/18 20:52	2
Ammonia	ND		0.20		mg/L		07/13/18 18:41	07/16/18 09:40	1
Nitrate as N	**0.070**		0.050		mg/L			07/11/18 21:21	1
TOC Result 1	**2.7**		1.0		mg/L			07/18/18 13:11	1
TOC Result 2	**2.8**		1.0		mg/L			07/18/18 13:11	1
Total Organic Carbon - Duplicates	**2.7**		1.0		mg/L			07/18/18 13:11	1
Alkalinity, Total	**360**		5.0		mg/L			07/11/18 14:38	1
ortho-Phosphate	ND	^	0.020		mg/L			07/11/18 10:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.0**	**HF**	0.1		SU			07/18/18 08:35	1
Temperature	**21.1**	**HF**	0.001		Degrees C			07/18/18 08:35	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: REW-11-20180710
Date Collected: 07/10/18 10:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		20		ug/L			07/12/18 04:05	20
1,1,1-Trichloroethane	ND		20		ug/L			07/12/18 04:05	20
1,1,2,2-Tetrachloroethane	ND		10		ug/L			07/12/18 04:05	20
1,1,2-Trichloroethane	ND		20		ug/L			07/12/18 04:05	20
1,1-Dichloroethane	ND		20		ug/L			07/12/18 04:05	20
1,1-Dichloroethene	ND		20		ug/L			07/12/18 04:05	20
1,1-Dichloropropene	ND		20		ug/L			07/12/18 04:05	20
1,2,3-Trichlorobenzene	ND		20		ug/L			07/12/18 04:05	20
1,2,3-Trichloropropane	ND		20		ug/L			07/12/18 04:05	20
1,2,4-Trichlorobenzene	ND		20		ug/L			07/12/18 04:05	20
1,2,4-Trimethylbenzene	ND		20		ug/L			07/12/18 04:05	20
1,2-Dibromo-3-Chloropropane	ND		100		ug/L			07/12/18 04:05	20
1,2-Dichlorobenzene	ND		20		ug/L			07/12/18 04:05	20
1,2-Dichloroethane	ND		20		ug/L			07/12/18 04:05	20
1,2-Dichloropropane	ND		20		ug/L			07/12/18 04:05	20
1,3,5-Trimethylbenzene	ND		20		ug/L			07/12/18 04:05	20
1,3-Dichlorobenzene	ND		20		ug/L			07/12/18 04:05	20
1,3-Dichloropropane	ND		20		ug/L			07/12/18 04:05	20
1,4-Dichlorobenzene	ND		20		ug/L			07/12/18 04:05	20
1,4-Dioxane	ND		1000		ug/L			07/12/18 04:05	20
2,2-Dichloropropane	ND		20		ug/L			07/12/18 04:05	20
2-Butanone (MEK)	**590**		200		ug/L			07/12/18 04:05	20
2-Chlorotoluene	ND		20		ug/L			07/12/18 04:05	20
2-Hexanone	ND	*	200		ug/L			07/12/18 04:05	20
4-Chlorotoluene	ND		20		ug/L			07/12/18 04:05	20
4-Isopropyltoluene	ND		20		ug/L			07/12/18 04:05	20
4-Methyl-2-pentanone (MIBK)	ND		200		ug/L			07/12/18 04:05	20
Acetone	ND		1000		ug/L			07/12/18 04:05	20
Benzene	ND		20		ug/L			07/12/18 04:05	20
Bromobenzene	ND		20		ug/L			07/12/18 04:05	20
Bromoform	ND		20		ug/L			07/12/18 04:05	20
Bromomethane	ND		40		ug/L			07/12/18 04:05	20
Carbon disulfide	ND		200		ug/L			07/12/18 04:05	20
Carbon tetrachloride	ND		20		ug/L			07/12/18 04:05	20
Chlorobenzene	ND		20		ug/L			07/12/18 04:05	20
Chlorobromomethane	ND		20		ug/L			07/12/18 04:05	20
Chlorodibromomethane	ND		10		ug/L			07/12/18 04:05	20
Chloroethane	ND		40		ug/L			07/12/18 04:05	20
Chloroform	ND		20		ug/L			07/12/18 04:05	20
Chloromethane	ND		40		ug/L			07/12/18 04:05	20
cis-1,2-Dichloroethene	ND		20		ug/L			07/12/18 04:05	20
cis-1,3-Dichloropropene	ND		8.0		ug/L			07/12/18 04:05	20
Dichlorobromomethane	ND		10		ug/L			07/12/18 04:05	20
Dichlorodifluoromethane	ND		20		ug/L			07/12/18 04:05	20
Ethyl ether	ND		20		ug/L			07/12/18 04:05	20
Ethylbenzene	ND		20		ug/L			07/12/18 04:05	20
Ethylene Dibromide	ND		20		ug/L			07/12/18 04:05	20
Hexachlorobutadiene	ND		8.0		ug/L			07/12/18 04:05	20
Isopropyl ether	ND		200		ug/L			07/12/18 04:05	20

Client Sample ID: REW-11-20180710
Date Collected: 07/10/18 10:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		20		ug/L			07/12/18 04:05	20
Methyl tert-butyl ether	ND		20		ug/L			07/12/18 04:05	20
Methylene Chloride	ND		20		ug/L			07/12/18 04:05	20
m-Xylene & p-Xylene	ND		40		ug/L			07/12/18 04:05	20
Naphthalene	ND		100		ug/L			07/12/18 04:05	20
n-Butylbenzene	ND		20		ug/L			07/12/18 04:05	20
N-Propylbenzene	ND		20		ug/L			07/12/18 04:05	20
o-Xylene	ND		20		ug/L			07/12/18 04:05	20
sec-Butylbenzene	ND		20		ug/L			07/12/18 04:05	20
Styrene	ND		20		ug/L			07/12/18 04:05	20
Tert-amyl methyl ether	ND		100		ug/L			07/12/18 04:05	20
Tert-butyl ethyl ether	ND		100		ug/L			07/12/18 04:05	20
tert-Butylbenzene	ND		20		ug/L			07/12/18 04:05	20
Tetrachloroethene	ND		20		ug/L			07/12/18 04:05	20
Tetrahydrofuran	ND	*	200		ug/L			07/12/18 04:05	20
Toluene	**22**		20		ug/L			07/12/18 04:05	20
trans-1,2-Dichloroethene	ND		20		ug/L			07/12/18 04:05	20
trans-1,3-Dichloropropene	ND		8.0		ug/L			07/12/18 04:05	20
Trichloroethene	ND		20		ug/L			07/12/18 04:05	20
Trichlorofluoromethane	ND		20		ug/L			07/12/18 04:05	20
Vinyl chloride	ND		20		ug/L			07/12/18 04:05	20
Dibromomethane	ND		20		ug/L			07/12/18 04:05	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/12/18 04:05*	*20*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*07/12/18 04:05*	*20*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/12/18 04:05*	*20*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**230**		0.050		mg/L		07/13/18 09:01	07/13/18 20:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33**		5.0		mg/L			07/17/18 21:00	10
Sulfate	ND		20		mg/L			07/17/18 21:00	10
Ammonia	**0.47**		0.40		mg/L		07/13/18 18:41	07/16/18 09:41	1
Nitrate as N	ND		0.050		mg/L			07/11/18 18:52	1
TOC Result 1	**5100**		80		mg/L			07/19/18 23:44	80
TOC Result 2	**5000**		80		mg/L			07/19/18 23:44	80
Total Organic Carbon - Duplicates	**5000**		80		mg/L			07/19/18 23:44	80
Alkalinity, Total	**950**		5.0		mg/L			07/16/18 20:04	1
ortho-Phosphate	**0.82**	**^**	0.020		mg/L			07/11/18 10:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.6**	**HF**	0.1		SU			07/18/18 08:38	1
Temperature	**21.0**	**HF**	0.001		Degrees C			07/18/18 08:38	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: REW-12-20180710
Date Collected: 07/10/18 11:55
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-5
Matrix: Water

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			07/12/18 04:34	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/12/18 04:34	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/12/18 04:34	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/12/18 04:34	1
1,1-Dichloroethane	ND		1.0		ug/L			07/12/18 04:34	1
1,1-Dichloroethene	ND		1.0		ug/L			07/12/18 04:34	1
1,1-Dichloropropene	ND		1.0		ug/L			07/12/18 04:34	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/12/18 04:34	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/12/18 04:34	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,2-Dichloroethane	ND		1.0		ug/L			07/12/18 04:34	1
1,2-Dichloropropane	ND		1.0		ug/L			07/12/18 04:34	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,3-Dichloropropane	ND		1.0		ug/L			07/12/18 04:34	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/12/18 04:34	1
1,4-Dioxane	ND		50		ug/L			07/12/18 04:34	1
2,2-Dichloropropane	ND		1.0		ug/L			07/12/18 04:34	1
2-Butanone (MEK)	ND		10		ug/L			07/12/18 04:34	1
2-Chlorotoluene	ND		1.0		ug/L			07/12/18 04:34	1
2-Hexanone	ND	*	10		ug/L			07/12/18 04:34	1
4-Chlorotoluene	ND		1.0		ug/L			07/12/18 04:34	1
4-Isopropyltoluene	ND		1.0		ug/L			07/12/18 04:34	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/12/18 04:34	1
Acetone	ND		50		ug/L			07/12/18 04:34	1
Benzene	ND		1.0		ug/L			07/12/18 04:34	1
Bromobenzene	ND		1.0		ug/L			07/12/18 04:34	1
Bromoform	ND		1.0		ug/L			07/12/18 04:34	1
Bromomethane	ND		2.0		ug/L			07/12/18 04:34	1
Carbon disulfide	ND		10		ug/L			07/12/18 04:34	1
Carbon tetrachloride	ND		1.0		ug/L			07/12/18 04:34	1
Chlorobenzene	ND		1.0		ug/L			07/12/18 04:34	1
Chlorobromomethane	ND		1.0		ug/L			07/12/18 04:34	1
Chlorodibromomethane	ND		0.50		ug/L			07/12/18 04:34	1
Chloroethane	ND		2.0		ug/L			07/12/18 04:34	1
Chloroform	ND		1.0		ug/L			07/12/18 04:34	1
Chloromethane	ND		2.0		ug/L			07/12/18 04:34	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 04:34	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 04:34	1
Dichlorobromomethane	ND		0.50		ug/L			07/12/18 04:34	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/12/18 04:34	1
Ethyl ether	ND		1.0		ug/L			07/12/18 04:34	1
Ethylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
Ethylene Dibromide	ND		1.0		ug/L			07/12/18 04:34	1
Hexachlorobutadiene	ND		0.40		ug/L			07/12/18 04:34	1
Isopropyl ether	ND		10		ug/L			07/12/18 04:34	1

Client Sample ID: REW-12-20180710
Date Collected: 07/10/18 11:55
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-5
Matrix: Water

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			07/12/18 04:34	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/12/18 04:34	1
Methylene Chloride	ND		1.0		ug/L			07/12/18 04:34	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/18 04:34	1
Naphthalene	ND		5.0		ug/L			07/12/18 04:34	1
n-Butylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
N-Propylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
o-Xylene	ND		1.0		ug/L			07/12/18 04:34	1
sec-Butylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
Styrene	ND		1.0		ug/L			07/12/18 04:34	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/12/18 04:34	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/12/18 04:34	1
tert-Butylbenzene	ND		1.0		ug/L			07/12/18 04:34	1
Tetrachloroethene	ND		1.0		ug/L			07/12/18 04:34	1
Tetrahydrofuran	ND	*	10		ug/L			07/12/18 04:34	1
Toluene	ND		1.0		ug/L			07/12/18 04:34	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 04:34	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 04:34	1
Trichloroethene	ND		1.0		ug/L			07/12/18 04:34	1
Trichlorofluoromethane	ND		1.0		ug/L			07/12/18 04:34	1
Vinyl chloride	ND		1.0		ug/L			07/12/18 04:34	1
Dibromomethane	ND		1.0		ug/L			07/12/18 04:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/12/18 04:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*07/12/18 04:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*07/12/18 04:34*	*1*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**46**		0.050		mg/L		07/13/18 09:01	07/13/18 20:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35**		1.0		mg/L			07/17/18 21:08	2
Sulfate	ND		4.0		mg/L			07/17/18 21:08	2
Ammonia	**11**		2.0		mg/L		07/13/18 18:41	07/16/18 09:57	10
Nitrate as N	**0.074**		0.050		mg/L			07/11/18 21:22	1
TOC Result 1	**1400**		20		mg/L			07/18/18 16:54	20
TOC Result 2	**1500**		20		mg/L			07/18/18 16:54	20
Total Organic Carbon - Duplicates	**1400**		20		mg/L			07/18/18 16:54	20
Alkalinity, Total	**300**		5.0		mg/L			07/11/18 11:56	1
ortho-Phosphate	**0.11**	**^**	0.020		mg/L			07/11/18 10:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**	**HF**	0.1		SU			07/18/18 08:47	1
Temperature	**21.0**	**HF**	0.001		Degrees C			07/18/18 08:47	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: TRIP BLANKS
Date Collected: 07/10/18 00:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-6
Matrix: Water

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			07/12/18 05:03	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/12/18 05:03	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/12/18 05:03	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/12/18 05:03	1
1,1-Dichloroethane	ND		1.0		ug/L			07/12/18 05:03	1
1,1-Dichloroethene	ND		1.0		ug/L			07/12/18 05:03	1
1,1-Dichloropropene	ND		1.0		ug/L			07/12/18 05:03	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/12/18 05:03	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/12/18 05:03	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,2-Dichloroethane	ND		1.0		ug/L			07/12/18 05:03	1
1,2-Dichloropropane	ND		1.0		ug/L			07/12/18 05:03	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,3-Dichloropropane	ND		1.0		ug/L			07/12/18 05:03	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/12/18 05:03	1
1,4-Dioxane	ND		50		ug/L			07/12/18 05:03	1
2,2-Dichloropropane	ND		1.0		ug/L			07/12/18 05:03	1
2-Butanone (MEK)	ND		10		ug/L			07/12/18 05:03	1
2-Chlorotoluene	ND		1.0		ug/L			07/12/18 05:03	1
2-Hexanone	ND	*	10		ug/L			07/12/18 05:03	1
4-Chlorotoluene	ND		1.0		ug/L			07/12/18 05:03	1
4-Isopropyltoluene	ND		1.0		ug/L			07/12/18 05:03	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/12/18 05:03	1
Acetone	ND		50		ug/L			07/12/18 05:03	1
Benzene	ND		1.0		ug/L			07/12/18 05:03	1
Bromobenzene	ND		1.0		ug/L			07/12/18 05:03	1
Bromoform	ND		1.0		ug/L			07/12/18 05:03	1
Bromomethane	ND		2.0		ug/L			07/12/18 05:03	1
Carbon disulfide	ND		10		ug/L			07/12/18 05:03	1
Carbon tetrachloride	ND		1.0		ug/L			07/12/18 05:03	1
Chlorobenzene	ND		1.0		ug/L			07/12/18 05:03	1
Chlorobromomethane	ND		1.0		ug/L			07/12/18 05:03	1
Chlorodibromomethane	ND		0.50		ug/L			07/12/18 05:03	1
Chloroethane	ND		2.0		ug/L			07/12/18 05:03	1
Chloroform	ND		1.0		ug/L			07/12/18 05:03	1
Chloromethane	ND		2.0		ug/L			07/12/18 05:03	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 05:03	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 05:03	1
Dichlorobromomethane	ND		0.50		ug/L			07/12/18 05:03	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/12/18 05:03	1
Ethyl ether	ND		1.0		ug/L			07/12/18 05:03	1
Ethylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
Ethylene Dibromide	ND		1.0		ug/L			07/12/18 05:03	1
Hexachlorobutadiene	ND		0.40		ug/L			07/12/18 05:03	1
Isopropyl ether	ND		10		ug/L			07/12/18 05:03	1

Client Sample ID: TRIP BLANKS

Lab Sample ID: 480-138614-6

Date Collected: 07/10/18 00:00

Matrix: Water

Date Received: 07/11/18 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			07/12/18 05:03	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/12/18 05:03	1
Methylene Chloride	ND		1.0		ug/L			07/12/18 05:03	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/18 05:03	1
Naphthalene	ND		5.0		ug/L			07/12/18 05:03	1
n-Butylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
N-Propylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
o-Xylene	ND		1.0		ug/L			07/12/18 05:03	1
sec-Butylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
Styrene	ND		1.0		ug/L			07/12/18 05:03	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/12/18 05:03	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/12/18 05:03	1
tert-Butylbenzene	ND		1.0		ug/L			07/12/18 05:03	1
Tetrachloroethene	ND		1.0		ug/L			07/12/18 05:03	1
Tetrahydrofuran	ND	*	10		ug/L			07/12/18 05:03	1
Toluene	ND		1.0		ug/L			07/12/18 05:03	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 05:03	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 05:03	1
Trichloroethene	ND		1.0		ug/L			07/12/18 05:03	1
Trichlorofluoromethane	ND		1.0		ug/L			07/12/18 05:03	1
Vinyl chloride	ND		1.0		ug/L			07/12/18 05:03	1
Dibromomethane	ND		1.0		ug/L			07/12/18 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*07/12/18 05:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*07/12/18 05:03*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*07/12/18 05:03*	*1*

Client Sample ID: DUP-20180710

Lab Sample ID: 480-138614-7

Date Collected: 07/10/18 00:00

Matrix: Water

Date Received: 07/11/18 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			07/12/18 12:12	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/12/18 12:12	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/12/18 12:12	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/12/18 12:12	1
1,1-Dichloroethane	ND		1.0		ug/L			07/12/18 12:12	1
1,1-Dichloroethene	ND		1.0		ug/L			07/12/18 12:12	1
1,1-Dichloropropene	ND		1.0		ug/L			07/12/18 12:12	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/12/18 12:12	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/12/18 12:12	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/12/18 12:12	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/12/18 12:12	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/12/18 12:12	1
1,2-Dichloroethane	ND		1.0		ug/L			07/12/18 12:12	1
1,2-Dichloropropane	ND		1.0		ug/L			07/12/18 12:12	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/12/18 12:12	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: DUP-20180710
Date Collected: 07/10/18 00:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-7
Matrix: Water

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			07/12/18 12:12	1
1,3-Dichloropropane	ND		1.0		ug/L			07/12/18 12:12	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/12/18 12:12	1
1,4-Dioxane	ND		50		ug/L			07/12/18 12:12	1
2,2-Dichloropropane	ND		1.0		ug/L			07/12/18 12:12	1
2-Butanone (MEK)	ND	*	10		ug/L			07/12/18 12:12	1
2-Chlorotoluene	ND		1.0		ug/L			07/12/18 12:12	1
2-Hexanone	ND	*	10		ug/L			07/12/18 12:12	1
4-Chlorotoluene	ND		1.0		ug/L			07/12/18 12:12	1
4-Isopropyltoluene	ND		1.0		ug/L			07/12/18 12:12	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/12/18 12:12	1
Acetone	ND		50		ug/L			07/12/18 12:12	1
Benzene	ND		1.0		ug/L			07/12/18 12:12	1
Bromobenzene	ND		1.0		ug/L			07/12/18 12:12	1
Bromoform	ND		1.0		ug/L			07/12/18 12:12	1
Bromomethane	ND		2.0		ug/L			07/12/18 12:12	1
Carbon disulfide	ND		10		ug/L			07/12/18 12:12	1
Carbon tetrachloride	ND		1.0		ug/L			07/12/18 12:12	1
Chlorobenzene	ND		1.0		ug/L			07/12/18 12:12	1
Chlorobromomethane	ND		1.0		ug/L			07/12/18 12:12	1
Chlorodibromomethane	ND		0.50		ug/L			07/12/18 12:12	1
Chloroethane	ND		2.0		ug/L			07/12/18 12:12	1
Chloroform	ND		1.0		ug/L			07/12/18 12:12	1
Chloromethane	ND		2.0		ug/L			07/12/18 12:12	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 12:12	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 12:12	1
Dichlorobromomethane	ND		0.50		ug/L			07/12/18 12:12	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/12/18 12:12	1
Ethyl ether	ND		1.0		ug/L			07/12/18 12:12	1
Ethylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
Ethylene Dibromide	ND		1.0		ug/L			07/12/18 12:12	1
Hexachlorobutadiene	ND		0.40		ug/L			07/12/18 12:12	1
Isopropyl ether	ND		10		ug/L			07/12/18 12:12	1
Isopropylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/12/18 12:12	1
Methylene Chloride	ND		1.0		ug/L			07/12/18 12:12	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/18 12:12	1
Naphthalene	ND		5.0		ug/L			07/12/18 12:12	1
n-Butylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
N-Propylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
o-Xylene	ND		1.0		ug/L			07/12/18 12:12	1
sec-Butylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
Styrene	ND		1.0		ug/L			07/12/18 12:12	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/12/18 12:12	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/12/18 12:12	1
tert-Butylbenzene	ND		1.0		ug/L			07/12/18 12:12	1
Tetrachloroethene	ND		1.0		ug/L			07/12/18 12:12	1
Tetrahydrofuran	ND		10		ug/L			07/12/18 12:12	1
Toluene	ND		1.0		ug/L			07/12/18 12:12	1

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: DUP-20180710
Date Collected: 07/10/18 00:00
Date Received: 07/11/18 02:00

Lab Sample ID: 480-138614-7
Matrix: Water

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			07/12/18 12:12	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 12:12	1
Trichloroethene	ND		1.0		ug/L			07/12/18 12:12	1
Trichlorofluoromethane	ND		1.0		ug/L			07/12/18 12:12	1
Vinyl chloride	ND		1.0		ug/L			07/12/18 12:12	1
Dibromomethane	ND		1.0		ug/L			07/12/18 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/12/18 12:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*07/12/18 12:12*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/12/18 12:12*	*1*

Surrogate Summary

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

TestAmerica Job ID: 480-138614-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DCA	BFB
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
480-138614-1	MW-267S-20180710	99	98	99
480-138614-2	MW-268S-20180710	93	90	94
480-138614-3	MW-268M-20180710	98	94	100
480-138614-4	REW-11-20180710	99	95	99
480-138614-5	REW-12-20180710	99	96	101
480-138614-6	TRIP BLANKS	100	95	101
480-138614-7	DUP-20180710	99	95	99
LCS 480-424051/5	Lab Control Sample	99	86	100
LCS 480-424087/4	Lab Control Sample	100	83	104
LCSD 480-424051/9	Lab Control Sample Dup	100	85	100
LCSD 480-424087/5	Lab Control Sample Dup	101	82	102
MB 480-424051/7	Method Blank	99	92	100
MB 480-424087/7	Method Blank	98	95	98

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 480-424051/7
Matrix: Water
Analysis Batch: 424051

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			07/12/18 00:05	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/12/18 00:05	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/12/18 00:05	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/12/18 00:05	1
1,1-Dichloroethane	ND		1.0		ug/L			07/12/18 00:05	1
1,1-Dichloroethene	ND		1.0		ug/L			07/12/18 00:05	1
1,1-Dichloropropene	ND		1.0		ug/L			07/12/18 00:05	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/12/18 00:05	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/12/18 00:05	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,2-Dichloroethane	ND		1.0		ug/L			07/12/18 00:05	1
1,2-Dichloropropane	ND		1.0		ug/L			07/12/18 00:05	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,3-Dichloropropane	ND		1.0		ug/L			07/12/18 00:05	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/12/18 00:05	1
1,4-Dioxane	ND		50		ug/L			07/12/18 00:05	1
2,2-Dichloropropane	ND		1.0		ug/L			07/12/18 00:05	1
2-Butanone (MEK)	ND		10		ug/L			07/12/18 00:05	1
2-Chlorotoluene	ND		1.0		ug/L			07/12/18 00:05	1
2-Hexanone	ND		10		ug/L			07/12/18 00:05	1
4-Chlorotoluene	ND		1.0		ug/L			07/12/18 00:05	1
4-Isopropyltoluene	ND		1.0		ug/L			07/12/18 00:05	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/12/18 00:05	1
Acetone	ND		50		ug/L			07/12/18 00:05	1
Benzene	ND		1.0		ug/L			07/12/18 00:05	1
Bromobenzene	ND		1.0		ug/L			07/12/18 00:05	1
Bromoform	ND		1.0		ug/L			07/12/18 00:05	1
Bromomethane	ND		2.0		ug/L			07/12/18 00:05	1
Carbon disulfide	ND		10		ug/L			07/12/18 00:05	1
Carbon tetrachloride	ND		1.0		ug/L			07/12/18 00:05	1
Chlorobenzene	ND		1.0		ug/L			07/12/18 00:05	1
Chlorobromomethane	ND		1.0		ug/L			07/12/18 00:05	1
Chlorodibromomethane	ND		0.50		ug/L			07/12/18 00:05	1
Chloroethane	ND		2.0		ug/L			07/12/18 00:05	1
Chloroform	ND		1.0		ug/L			07/12/18 00:05	1
Chloromethane	ND		2.0		ug/L			07/12/18 00:05	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 00:05	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 00:05	1
Dichlorobromomethane	ND		0.50		ug/L			07/12/18 00:05	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/12/18 00:05	1
Ethyl ether	ND		1.0		ug/L			07/12/18 00:05	1
Ethylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
Ethylene Dibromide	ND		1.0		ug/L			07/12/18 00:05	1
Hexachlorobutadiene	ND		0.40		ug/L			07/12/18 00:05	1

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

Lab Sample ID: MB 480-424051/7
Matrix: Water
Analysis Batch: 424051

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			07/12/18 00:05	1
Isopropylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/12/18 00:05	1
Methylene Chloride	ND		1.0		ug/L			07/12/18 00:05	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/18 00:05	1
Naphthalene	ND		5.0		ug/L			07/12/18 00:05	1
n-Butylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
N-Propylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
o-Xylene	ND		1.0		ug/L			07/12/18 00:05	1
sec-Butylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
Styrene	ND		1.0		ug/L			07/12/18 00:05	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/12/18 00:05	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/12/18 00:05	1
tert-Butylbenzene	ND		1.0		ug/L			07/12/18 00:05	1
Tetrachloroethene	ND		1.0		ug/L			07/12/18 00:05	1
Tetrahydrofuran	ND		10		ug/L			07/12/18 00:05	1
Toluene	ND		1.0		ug/L			07/12/18 00:05	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 00:05	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 00:05	1
Trichloroethene	ND		1.0		ug/L			07/12/18 00:05	1
Trichlorofluoromethane	ND		1.0		ug/L			07/12/18 00:05	1
Vinyl chloride	ND		1.0		ug/L			07/12/18 00:05	1
Dibromomethane	ND		1.0		ug/L			07/12/18 00:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/12/18 00:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*07/12/18 00:05*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*07/12/18 00:05*	*1*

Lab Sample ID: LCS 480-424051/5
Matrix: Water
Analysis Batch: 424051

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.9		ug/L		99	70 - 130
1,1,1-Trichloroethane	25.0	22.7		ug/L		91	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.3		ug/L		101	70 - 130
1,1,2-Trichloroethane	25.0	24.0		ug/L		96	70 - 130
1,1-Dichloroethane	25.0	22.0		ug/L		88	70 - 130
1,1-Dichloroethene	25.0	23.0		ug/L		92	70 - 130
1,1-Dichloropropene	25.0	22.7		ug/L		91	70 - 130
1,2,3-Trichlorobenzene	25.0	24.6		ug/L		98	70 - 130
1,2,3-Trichloropropane	25.0	25.6		ug/L		102	70 - 130
1,2,4-Trichlorobenzene	25.0	24.5		ug/L		98	70 - 130
1,2,4-Trimethylbenzene	25.0	25.2		ug/L		101	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	23.8		ug/L		95	70 - 130
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	20.5		ug/L		82	70 - 130

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

Lab Sample ID: LCS 480-424051/5
Matrix: Water
Analysis Batch: 424051

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	21.6		ug/L		86	70 - 130
1,3,5-Trimethylbenzene	25.0	25.7		ug/L		103	70 - 130
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,3-Dichloropropane	25.0	24.2		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130
1,4-Dioxane	500	562		ug/L		112	70 - 130
2,2-Dichloropropane	25.0	24.2		ug/L		97	70 - 130
2-Butanone (MEK)	125	138		ug/L		111	70 - 130
2-Chlorotoluene	25.0	24.7		ug/L		99	70 - 130
2-Hexanone	125	185	*	ug/L		148	70 - 130
4-Chlorotoluene	25.0	28.4		ug/L		114	70 - 130
4-Isopropyltoluene	25.0	26.9		ug/L		108	70 - 130
4-Methyl-2-pentanone (MIBK)	125	125		ug/L		100	70 - 130
Acetone	125	123		ug/L		99	70 - 130
Benzene	25.0	21.1		ug/L		84	70 - 130
Bromobenzene	25.0	25.1		ug/L		100	70 - 130
Bromoform	25.0	23.9		ug/L		96	70 - 130
Bromomethane	25.0	19.1		ug/L		76	70 - 130
Carbon disulfide	25.0	21.9		ug/L		87	70 - 130
Carbon tetrachloride	25.0	23.3		ug/L		93	70 - 130
Chlorobenzene	25.0	24.8		ug/L		99	70 - 130
Chlorobromomethane	25.0	21.8		ug/L		87	70 - 130
Chlorodibromomethane	25.0	24.4		ug/L		98	70 - 130
Chloroethane	25.0	20.8		ug/L		83	70 - 130
Chloroform	25.0	21.0		ug/L		84	70 - 130
Chloromethane	25.0	19.2		ug/L		77	70 - 130
cis-1,2-Dichloroethene	25.0	20.8		ug/L		83	70 - 130
cis-1,3-Dichloropropene	25.0	22.1		ug/L		88	70 - 130
Dichlorobromomethane	25.0	22.0		ug/L		88	70 - 130
Dichlorodifluoromethane	25.0	23.1		ug/L		92	70 - 130
Ethyl ether	25.0	21.2		ug/L		85	70 - 130
Ethylbenzene	25.0	25.4		ug/L		101	70 - 130
Ethylene Dibromide	25.0	24.4		ug/L		98	70 - 130
Hexachlorobutadiene	25.0	26.7		ug/L		107	70 - 130
Isopropyl ether	25.0	24.0		ug/L		96	70 - 130
Isopropylbenzene	25.0	26.1		ug/L		104	70 - 130
Methyl tert-butyl ether	25.0	20.9		ug/L		84	70 - 130
Methylene Chloride	25.0	20.8		ug/L		83	70 - 130
m-Xylene & p-Xylene	25.0	25.2		ug/L		101	70 - 130
Naphthalene	25.0	24.0		ug/L		96	70 - 130
n-Butylbenzene	25.0	27.0		ug/L		108	70 - 130
N-Propylbenzene	25.0	26.3		ug/L		105	70 - 130
o-Xylene	25.0	25.8		ug/L		103	70 - 130
sec-Butylbenzene	25.0	26.5		ug/L		106	70 - 130
Styrene	25.0	25.5		ug/L		102	70 - 130
Tert-amyl methyl ether	25.0	22.9		ug/L		92	70 - 130
Tert-butyl ethyl ether	25.0	22.9		ug/L		92	70 - 130
tert-Butylbenzene	25.0	26.7		ug/L		107	70 - 130

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

Lab Sample ID: LCS 480-424051/5
Matrix: Water
Analysis Batch: 424051

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	27.3		ug/L		109	70 - 130		
Tetrahydrofuran			50.0	61.1		ug/L		122	70 - 130		
Toluene			25.0	25.2		ug/L		101	70 - 130		
trans-1,2-Dichloroethene			25.0	21.9		ug/L		87	70 - 130		
trans-1,3-Dichloropropene			25.0	23.8		ug/L		95	70 - 130		
Trichloroethene			25.0	22.6		ug/L		90	70 - 130		
Trichlorofluoromethane			25.0	21.6		ug/L		86	70 - 130		
Vinyl chloride			25.0	20.6		ug/L		82	70 - 130		
Dibromomethane			25.0	21.5		ug/L		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 480-424051/9
Matrix: Water
Analysis Batch: 424051

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	25.5		ug/L		102	70 - 130	3	20
1,1,1-Trichloroethane			25.0	24.2		ug/L		97	70 - 130	6	20
1,1,2,2-Tetrachloroethane			25.0	26.8		ug/L		107	70 - 130	6	20
1,1,2-Trichloroethane			25.0	25.1		ug/L		100	70 - 130	4	20
1,1-Dichloroethane			25.0	23.0		ug/L		92	70 - 130	5	20
1,1-Dichloroethene			25.0	24.5		ug/L		98	70 - 130	6	20
1,1-Dichloropropene			25.0	24.1		ug/L		96	70 - 130	6	20
1,2,3-Trichlorobenzene			25.0	25.6		ug/L		102	70 - 130	4	20
1,2,3-Trichloropropane			25.0	27.0		ug/L		108	70 - 130	5	20
1,2,4-Trichlorobenzene			25.0	25.7		ug/L		103	70 - 130	5	20
1,2,4-Trimethylbenzene			25.0	26.9		ug/L		108	70 - 130	7	20
1,2-Dibromo-3-Chloropropane			25.0	24.4		ug/L		98	70 - 130	3	20
1,2-Dichlorobenzene			25.0	26.0		ug/L		104	70 - 130	5	20
1,2-Dichloroethane			25.0	20.9		ug/L		84	70 - 130	2	20
1,2-Dichloropropane			25.0	22.4		ug/L		90	70 - 130	3	20
1,3,5-Trimethylbenzene			25.0	27.3		ug/L		109	70 - 130	6	20
1,3-Dichlorobenzene			25.0	25.4		ug/L		102	70 - 130	5	20
1,3-Dichloropropane			25.0	25.0		ug/L		100	70 - 130	3	20
1,4-Dichlorobenzene			25.0	25.5		ug/L		102	70 - 130	5	20
1,4-Dioxane			500	596		ug/L		119	70 - 130	6	20
2,2-Dichloropropane			25.0	25.4		ug/L		102	70 - 130	5	20
2-Butanone (MEK)			125	119		ug/L		95	70 - 130	15	20
2-Chlorotoluene			25.0	29.4		ug/L		118	70 - 130	17	20
2-Hexanone			125	193	*	ug/L		155	70 - 130	4	20
4-Chlorotoluene			25.0	29.3		ug/L		117	70 - 130	3	20
4-Isopropyltoluene			25.0	29.0		ug/L		116	70 - 130	7	20
4-Methyl-2-pentanone (MIBK)			125	129		ug/L		103	70 - 130	3	20
Acetone			125	127		ug/L		102	70 - 130	3	20

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

Lab Sample ID: LCSD 480-424051/9
Matrix: Water
Analysis Batch: 424051

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	21.8		ug/L		87	70 - 130	3	20
Bromobenzene	25.0	25.9		ug/L		104	70 - 130	3	20
Bromoform	25.0	24.7		ug/L		99	70 - 130	3	20
Bromomethane	25.0	20.2		ug/L		81	70 - 130	5	20
Carbon disulfide	25.0	23.5		ug/L		94	70 - 130	7	20
Carbon tetrachloride	25.0	24.5		ug/L		98	70 - 130	5	20
Chlorobenzene	25.0	25.9		ug/L		103	70 - 130	4	20
Chlorobromomethane	25.0	22.0		ug/L		88	70 - 130	1	20
Chlorodibromomethane	25.0	25.0		ug/L		100	70 - 130	2	20
Chloroethane	25.0	22.2		ug/L		89	70 - 130	6	20
Chloroform	25.0	21.9		ug/L		88	70 - 130	4	20
Chloromethane	25.0	20.3		ug/L		81	70 - 130	6	20
cis-1,2-Dichloroethene	25.0	21.3		ug/L		85	70 - 130	3	20
cis-1,3-Dichloropropene	25.0	22.5		ug/L		90	70 - 130	2	20
Dichlorobromomethane	25.0	22.7		ug/L		91	70 - 130	3	20
Dichlorodifluoromethane	25.0	24.7		ug/L		99	70 - 130	7	20
Ethyl ether	25.0	21.7		ug/L		87	70 - 130	2	20
Ethylbenzene	25.0	26.7		ug/L		107	70 - 130	5	20
Ethylene Dibromide	25.0	25.1		ug/L		100	70 - 130	3	20
Hexachlorobutadiene	25.0	28.0		ug/L		112	70 - 130	5	20
Isopropyl ether	25.0	24.9		ug/L		99	70 - 130	3	20
Isopropylbenzene	25.0	28.2		ug/L		113	70 - 130	8	20
Methyl tert-butyl ether	25.0	21.5		ug/L		86	70 - 130	3	20
Methylene Chloride	25.0	21.8		ug/L		87	70 - 130	4	20
m-Xylene & p-Xylene	25.0	26.6		ug/L		106	70 - 130	5	20
Naphthalene	25.0	24.9		ug/L		100	70 - 130	4	20
n-Butylbenzene	25.0	28.4		ug/L		114	70 - 130	5	20
N-Propylbenzene	25.0	28.4		ug/L		114	70 - 130	8	20
o-Xylene	25.0	27.0		ug/L		108	70 - 130	5	20
sec-Butylbenzene	25.0	28.4		ug/L		114	70 - 130	7	20
Styrene	25.0	26.6		ug/L		107	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	23.9		ug/L		96	70 - 130	4	20
tert-Butylbenzene	25.0	29.4		ug/L		118	70 - 130	9	20
Tetrachloroethene	25.0	30.7		ug/L		123	70 - 130	12	20
Tetrahydrofuran	50.0	46.9	*	ug/L		94	70 - 130	26	20
Toluene	25.0	26.3		ug/L		105	70 - 130	4	20
trans-1,2-Dichloroethene	25.0	23.0		ug/L		92	70 - 130	5	20
trans-1,3-Dichloropropene	25.0	24.6		ug/L		98	70 - 130	3	20
Trichloroethene	25.0	24.0		ug/L		96	70 - 130	6	20
Trichlorofluoromethane	25.0	23.5		ug/L		94	70 - 130	8	20
Vinyl chloride	25.0	22.3		ug/L		89	70 - 130	8	20
Dibromomethane	25.0	21.9		ug/L		88	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 480-424087/7
Matrix: Water
Analysis Batch: 424087

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			07/12/18 11:31	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/12/18 11:31	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/12/18 11:31	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/12/18 11:31	1
1,1-Dichloroethane	ND		1.0		ug/L			07/12/18 11:31	1
1,1-Dichloroethene	ND		1.0		ug/L			07/12/18 11:31	1
1,1-Dichloropropene	ND		1.0		ug/L			07/12/18 11:31	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/12/18 11:31	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/12/18 11:31	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,2-Dichloroethane	ND		1.0		ug/L			07/12/18 11:31	1
1,2-Dichloropropane	ND		1.0		ug/L			07/12/18 11:31	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,3-Dichloropropane	ND		1.0		ug/L			07/12/18 11:31	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/12/18 11:31	1
1,4-Dioxane	ND		50		ug/L			07/12/18 11:31	1
2,2-Dichloropropane	ND		1.0		ug/L			07/12/18 11:31	1
2-Butanone (MEK)	ND		10		ug/L			07/12/18 11:31	1
2-Chlorotoluene	ND		1.0		ug/L			07/12/18 11:31	1
2-Hexanone	ND		10		ug/L			07/12/18 11:31	1
4-Chlorotoluene	ND		1.0		ug/L			07/12/18 11:31	1
4-Isopropyltoluene	ND		1.0		ug/L			07/12/18 11:31	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/12/18 11:31	1
Acetone	ND		50		ug/L			07/12/18 11:31	1
Benzene	ND		1.0		ug/L			07/12/18 11:31	1
Bromobenzene	ND		1.0		ug/L			07/12/18 11:31	1
Bromoform	ND		1.0		ug/L			07/12/18 11:31	1
Bromomethane	ND		2.0		ug/L			07/12/18 11:31	1
Carbon disulfide	ND		10		ug/L			07/12/18 11:31	1
Carbon tetrachloride	ND		1.0		ug/L			07/12/18 11:31	1
Chlorobenzene	ND		1.0		ug/L			07/12/18 11:31	1
Chlorobromomethane	ND		1.0		ug/L			07/12/18 11:31	1
Chlorodibromomethane	ND		0.50		ug/L			07/12/18 11:31	1
Chloroethane	ND		2.0		ug/L			07/12/18 11:31	1
Chloroform	ND		1.0		ug/L			07/12/18 11:31	1
Chloromethane	ND		2.0		ug/L			07/12/18 11:31	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 11:31	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 11:31	1
Dichlorobromomethane	ND		0.50		ug/L			07/12/18 11:31	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/12/18 11:31	1
Ethyl ether	ND		1.0		ug/L			07/12/18 11:31	1
Ethylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
Ethylene Dibromide	ND		1.0		ug/L			07/12/18 11:31	1
Hexachlorobutadiene	ND		0.40		ug/L			07/12/18 11:31	1
Isopropyl ether	ND		10		ug/L			07/12/18 11:31	1
Isopropylbenzene	ND		1.0		ug/L			07/12/18 11:31	1

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

Lab Sample ID: MB 480-424087/7
Matrix: Water
Analysis Batch: 424087

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			07/12/18 11:31	1
Methylene Chloride	ND		1.0		ug/L			07/12/18 11:31	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/12/18 11:31	1
Naphthalene	ND		5.0		ug/L			07/12/18 11:31	1
n-Butylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
N-Propylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
o-Xylene	ND		1.0		ug/L			07/12/18 11:31	1
sec-Butylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
Styrene	ND		1.0		ug/L			07/12/18 11:31	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/12/18 11:31	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/12/18 11:31	1
tert-Butylbenzene	ND		1.0		ug/L			07/12/18 11:31	1
Tetrachloroethene	ND		1.0		ug/L			07/12/18 11:31	1
Tetrahydrofuran	ND		10		ug/L			07/12/18 11:31	1
Toluene	ND		1.0		ug/L			07/12/18 11:31	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/12/18 11:31	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/12/18 11:31	1
Trichloroethene	ND		1.0		ug/L			07/12/18 11:31	1
Trichlorofluoromethane	ND		1.0		ug/L			07/12/18 11:31	1
Vinyl chloride	ND		1.0		ug/L			07/12/18 11:31	1
Dibromomethane	ND		1.0		ug/L			07/12/18 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/12/18 11:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*07/12/18 11:31*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*07/12/18 11:31*	*1*

Lab Sample ID: LCS 480-424087/4
Matrix: Water
Analysis Batch: 424087

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	25.4		ug/L		102	70 - 130
1,1,1-Trichloroethane	25.0	23.2		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.3		ug/L		105	70 - 130
1,1,2-Trichloroethane	25.0	25.1		ug/L		100	70 - 130
1,1-Dichloroethane	25.0	22.2		ug/L		89	70 - 130
1,1-Dichloroethene	25.0	23.7		ug/L		95	70 - 130
1,1-Dichloropropene	25.0	22.8		ug/L		91	70 - 130
1,2,3-Trichlorobenzene	25.0	24.8		ug/L		99	70 - 130
1,2,3-Trichloropropane	25.0	26.1		ug/L		104	70 - 130
1,2,4-Trichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,2,4-Trimethylbenzene	25.0	27.1		ug/L		108	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	23.2		ug/L		93	70 - 130
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	20.1		ug/L		80	70 - 130
1,2-Dichloropropane	25.0	21.8		ug/L		87	70 - 130
1,3,5-Trimethylbenzene	25.0	27.4		ug/L		109	70 - 130

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

Lab Sample ID: LCS 480-424087/4
Matrix: Water
Analysis Batch: 424087

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	26.5		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	24.8		ug/L		99	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
1,4-Dioxane	500	470		ug/L		94	70 - 130
2,2-Dichloropropane	25.0	24.9		ug/L		100	70 - 130
2-Butanone (MEK)	125	113		ug/L		90	70 - 130
2-Chlorotoluene	25.0	31.1		ug/L		125	70 - 130
2-Hexanone	125	195	*	ug/L		156	70 - 130
4-Chlorotoluene	25.0	30.4		ug/L		122	70 - 130
4-Isopropyltoluene	25.0	28.7		ug/L		115	70 - 130
4-Methyl-2-pentanone (MIBK)	125	130		ug/L		104	70 - 130
Acetone	125	121		ug/L		97	70 - 130
Benzene	25.0	21.3		ug/L		85	70 - 130
Bromobenzene	25.0	26.0		ug/L		104	70 - 130
Bromoform	25.0	25.1		ug/L		100	70 - 130
Bromomethane	25.0	20.7		ug/L		83	70 - 130
Carbon disulfide	25.0	22.2		ug/L		89	70 - 130
Carbon tetrachloride	25.0	23.4		ug/L		94	70 - 130
Chlorobenzene	25.0	26.1		ug/L		104	70 - 130
Chlorobromomethane	25.0	21.5		ug/L		86	70 - 130
Chlorodibromomethane	25.0	24.9		ug/L		99	70 - 130
Chloroethane	25.0	21.8		ug/L		87	70 - 130
Chloroform	25.0	21.6		ug/L		86	70 - 130
Chloromethane	25.0	19.5		ug/L		78	70 - 130
cis-1,2-Dichloroethene	25.0	21.1		ug/L		84	70 - 130
cis-1,3-Dichloropropene	25.0	21.3		ug/L		85	70 - 130
Dichlorobromomethane	25.0	21.8		ug/L		87	70 - 130
Dichlorodifluoromethane	25.0	21.5		ug/L		86	70 - 130
Ethyl ether	25.0	21.5		ug/L		86	70 - 130
Ethylbenzene	25.0	27.4		ug/L		110	70 - 130
Ethylene Dibromide	25.0	25.3		ug/L		101	70 - 130
Hexachlorobutadiene	25.0	27.3		ug/L		109	70 - 130
Isopropyl ether	25.0	25.3		ug/L		101	70 - 130
Isopropylbenzene	25.0	28.1		ug/L		112	70 - 130
Methyl tert-butyl ether	25.0	21.0		ug/L		84	70 - 130
Methylene Chloride	25.0	21.5		ug/L		86	70 - 130
m-Xylene & p-Xylene	25.0	27.3		ug/L		109	70 - 130
Naphthalene	25.0	25.2		ug/L		101	70 - 130
n-Butylbenzene	25.0	30.6		ug/L		122	70 - 130
N-Propylbenzene	25.0	28.7		ug/L		115	70 - 130
o-Xylene	25.0	28.0		ug/L		112	70 - 130
sec-Butylbenzene	25.0	28.2		ug/L		113	70 - 130
Styrene	25.0	27.4		ug/L		110	70 - 130
Tert-amyl methyl ether	25.0	24.7		ug/L		99	70 - 130
Tert-butyl ethyl ether	25.0	23.9		ug/L		96	70 - 130
tert-Butylbenzene	25.0	28.3		ug/L		113	70 - 130
Tetrachloroethene	25.0	29.9		ug/L		120	70 - 130
Tetrahydrofuran	50.0	44.5		ug/L		89	70 - 130

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

Lab Sample ID: LCS 480-424087/4
Matrix: Water
Analysis Batch: 424087

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	26.6		ug/L		106	70 - 130
trans-1,2-Dichloroethene	25.0	22.4		ug/L		89	70 - 130
trans-1,3-Dichloropropene	25.0	24.2		ug/L		97	70 - 130
Trichloroethene	25.0	22.9		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	22.6		ug/L		90	70 - 130
Vinyl chloride	25.0	21.2		ug/L		85	70 - 130
Dibromomethane	25.0	20.9		ug/L		84	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*83*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 480-424087/5
Matrix: Water
Analysis Batch: 424087

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	26.1		ug/L		104	70 - 130	3	20
1,1,1-Trichloroethane	25.0	23.4		ug/L		94	70 - 130	1	20
1,1,2,2-Tetrachloroethane	25.0	25.7		ug/L		103	70 - 130	2	20
1,1,2-Trichloroethane	25.0	24.6		ug/L		99	70 - 130	2	20
1,1-Dichloroethane	25.0	22.5		ug/L		90	70 - 130	1	20
1,1-Dichloroethene	25.0	23.6		ug/L		94	70 - 130	0	20
1,1-Dichloropropene	25.0	22.8		ug/L		91	70 - 130	0	20
1,2,3-Trichlorobenzene	25.0	25.8		ug/L		103	70 - 130	4	20
1,2,3-Trichloropropane	25.0	25.5		ug/L		102	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	25.5		ug/L		102	70 - 130	2	20
1,2,4-Trimethylbenzene	25.0	26.6		ug/L		107	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	25.0	24.6		ug/L		98	70 - 130	6	20
1,2-Dichlorobenzene	25.0	25.6		ug/L		102	70 - 130	1	20
1,2-Dichloroethane	25.0	20.4		ug/L		81	70 - 130	1	20
1,2-Dichloropropane	25.0	21.7		ug/L		87	70 - 130	1	20
1,3,5-Trimethylbenzene	25.0	27.2		ug/L		109	70 - 130	1	20
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130	4	20
1,3-Dichloropropane	25.0	24.2		ug/L		97	70 - 130	2	20
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130	1	20
1,4-Dioxane	500	553		ug/L		111	70 - 130	16	20
2,2-Dichloropropane	25.0	25.0		ug/L		100	70 - 130	0	20
2-Butanone (MEK)	125	202	*	ug/L		162	70 - 130	3	20
2-Chlorotoluene	25.0	28.9		ug/L		116	70 - 130	7	20
2-Hexanone	125	197	*	ug/L		158	70 - 130	1	20
4-Chlorotoluene	25.0	27.2		ug/L		109	70 - 130	11	20
4-Isopropyltoluene	25.0	28.4		ug/L		114	70 - 130	1	20
4-Methyl-2-pentanone (MIBK)	125	135		ug/L		108	70 - 130	3	20
Acetone	125	125		ug/L		100	70 - 130	3	20
Benzene	25.0	21.3		ug/L		85	70 - 130	0	20
Bromobenzene	25.0	25.2		ug/L		101	70 - 130	3	20

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

Lab Sample ID: LCSD 480-424087/5
Matrix: Water
Analysis Batch: 424087

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	24.3		ug/L		97	70 - 130	3	20
Bromomethane			25.0	21.1		ug/L		84	70 - 130	2	20
Carbon disulfide			25.0	22.6		ug/L		90	70 - 130	2	20
Carbon tetrachloride			25.0	23.4		ug/L		93	70 - 130	0	20
Chlorobenzene			25.0	25.2		ug/L		101	70 - 130	4	20
Chlorobromomethane			25.0	21.7		ug/L		87	70 - 130	1	20
Chlorodibromomethane			25.0	24.3		ug/L		97	70 - 130	2	20
Chloroethane			25.0	22.1		ug/L		88	70 - 130	2	20
Chloroform			25.0	21.9		ug/L		87	70 - 130	1	20
Chloromethane			25.0	20.0		ug/L		80	70 - 130	2	20
cis-1,2-Dichloroethene			25.0	21.3		ug/L		85	70 - 130	1	20
cis-1,3-Dichloropropene			25.0	20.9		ug/L		84	70 - 130	2	20
Dichlorobromomethane			25.0	22.0		ug/L		88	70 - 130	1	20
Dichlorodifluoromethane			25.0	22.2		ug/L		89	70 - 130	3	20
Ethyl ether			25.0	21.6		ug/L		86	70 - 130	0	20
Ethylbenzene			25.0	26.6		ug/L		107	70 - 130	3	20
Ethylene Dibromide			25.0	24.2		ug/L		97	70 - 130	5	20
Hexachlorobutadiene			25.0	27.4		ug/L		110	70 - 130	1	20
Isopropyl ether			25.0	25.8		ug/L		103	70 - 130	2	20
Isopropylbenzene			25.0	27.7		ug/L		111	70 - 130	2	20
Methyl tert-butyl ether			25.0	21.6		ug/L		86	70 - 130	3	20
Methylene Chloride			25.0	22.0		ug/L		88	70 - 130	2	20
m-Xylene & p-Xylene			25.0	26.8		ug/L		107	70 - 130	2	20
Naphthalene			25.0	26.3		ug/L		105	70 - 130	4	20
n-Butylbenzene			25.0	30.5		ug/L		122	70 - 130	0	20
N-Propylbenzene			25.0	27.6		ug/L		110	70 - 130	4	20
o-Xylene			25.0	27.4		ug/L		110	70 - 130	2	20
sec-Butylbenzene			25.0	28.0		ug/L		112	70 - 130	1	20
Styrene			25.0	26.5		ug/L		106	70 - 130	4	20
Tert-amyl methyl ether			25.0	25.1		ug/L		100	70 - 130	2	20
Tert-butyl ethyl ether			25.0	24.3		ug/L		97	70 - 130	2	20
tert-Butylbenzene			25.0	28.2		ug/L		113	70 - 130	0	20
Tetrachloroethene			25.0	30.6		ug/L		122	70 - 130	2	20
Tetrahydrofuran			50.0	61.4		ug/L		123	70 - 130	2	20
Toluene			25.0	26.1		ug/L		104	70 - 130	2	20
trans-1,2-Dichloroethene			25.0	22.6		ug/L		91	70 - 130	1	20
trans-1,3-Dichloropropene			25.0	23.2		ug/L		93	70 - 130	4	20
Trichloroethene			25.0	23.1		ug/L		92	70 - 130	1	20
Trichlorofluoromethane			25.0	22.6		ug/L		90	70 - 130	0	20
Vinyl chloride			25.0	21.6		ug/L		87	70 - 130	2	20
Dibromomethane			25.0	21.5		ug/L		86	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*82*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*

Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-424155/1-A
Matrix: Water
Analysis Batch: 425140

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424155

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		07/13/18 09:01	07/13/18 19:14	1

Lab Sample ID: LCS 480-424155/2-A
Matrix: Water
Analysis Batch: 425140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424155

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.5		mg/L		105	80 - 120

Lab Sample ID: LCSD 480-424155/22-A
Matrix: Water
Analysis Batch: 425140

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424155

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	10.0	10.2		mg/L		102	80 - 120	3	20

Lab Sample ID: 480-138614-2 MS
Matrix: Water
Analysis Batch: 425140

Client Sample ID: MW-268S-20180710
Prep Type: Total/NA
Prep Batch: 424155

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.53		10.0	10.5		mg/L		100	75 - 125

Lab Sample ID: 480-138614-2 MSD
Matrix: Water
Analysis Batch: 425140

Client Sample ID: MW-268S-20180710
Prep Type: Total/NA
Prep Batch: 424155

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.53		10.0	10.9		mg/L		104	75 - 125	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-424846/28
Matrix: Water
Analysis Batch: 424846

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			07/17/18 19:06	1
Sulfate	ND		2.0		mg/L			07/17/18 19:06	1

Lab Sample ID: LCS 480-424846/27
Matrix: Water
Analysis Batch: 424846

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.7		mg/L		103	90 - 110
Sulfate	50.0	48.9		mg/L		98	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-424444/1-A
Matrix: Water
Analysis Batch: 424569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20		mg/L		07/13/18 18:41	07/16/18 09:36	1

Lab Sample ID: LCS 480-424444/2-A
Matrix: Water
Analysis Batch: 424569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.916		mg/L		92	90 - 110

Method: 9040C - pH

Lab Sample ID: 480-138614-4 DU
Matrix: Water
Analysis Batch: 425037

Client Sample ID: REW-11-20180710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.6	HF	5.6		SU		0.2	5
Temperature	21.0	HF	21.0		Degrees C		0	10

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

Lab Sample ID: MB 480-425344/28
Matrix: Water
Analysis Batch: 425344

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			07/18/18 08:59	1
TOC Result 2	ND		1.0		mg/L			07/18/18 08:59	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/18/18 08:59	1

Lab Sample ID: MB 480-425344/4
Matrix: Water
Analysis Batch: 425344

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			07/17/18 21:51	1
TOC Result 2	ND		1.0		mg/L			07/17/18 21:51	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/17/18 21:51	1

Lab Sample ID: LCS 480-425344/29
Matrix: Water
Analysis Batch: 425344

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	60.0	57.9		mg/L		96	90 - 110
TOC Result 2	60.0	57.8		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	60.0	57.8		mg/L		96	90 - 110

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

Lab Sample ID: LCS 480-425344/5
Matrix: Water
Analysis Batch: 425344

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	58.1		mg/L		97	90 - 110
TOC Result 2	60.0	58.1		mg/L		97	90 - 110
Total Organic Carbon - Duplicates	60.0	58.1		mg/L		97	90 - 110

Lab Sample ID: MB 480-425698/4
Matrix: Water
Analysis Batch: 425698

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			07/19/18 20:03	1
TOC Result 2	ND		1.0		mg/L			07/19/18 20:03	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/19/18 20:03	1

Lab Sample ID: MB 480-425698/52
Matrix: Water
Analysis Batch: 425698

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			07/20/18 18:18	1
TOC Result 2	ND		1.0		mg/L			07/20/18 18:18	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/20/18 18:18	1

Lab Sample ID: LCS 480-425698/5
Matrix: Water
Analysis Batch: 425698

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	60.0	57.4		mg/L		96	90 - 110
TOC Result 2	60.0	57.4		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	60.0	57.4		mg/L		96	90 - 110

Lab Sample ID: LCS 480-425698/53
Matrix: Water
Analysis Batch: 425698

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	56.8		mg/L		95	90 - 110
TOC Result 2	60.0	57.3		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	60.0	57.1		mg/L		95	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-424022/30
Matrix: Water
Analysis Batch: 424022

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			07/11/18 13:06	1

Lab Sample ID: MB 480-424022/7
Matrix: Water
Analysis Batch: 424022

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			07/11/18 10:58	1

Lab Sample ID: LCS 480-424022/31
Matrix: Water
Analysis Batch: 424022

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

Lab Sample ID: LCS 480-424022/8
Matrix: Water
Analysis Batch: 424022

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	94.9		mg/L		95	90 - 110

Lab Sample ID: 480-138614-5 DU
Matrix: Water
Analysis Batch: 424022

Client Sample ID: REW-12-20180710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total	300		301		mg/L		0.3	20

Lab Sample ID: MB 480-424940/30
Matrix: Water
Analysis Batch: 424940

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			07/16/18 19:24	1

Lab Sample ID: LCS 480-424940/31
Matrix: Water
Analysis Batch: 424940

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	93.7		mg/L		94	90 - 110

Method: SM 4500 P E - Orthophosphate

Lab Sample ID: MB 480-424001/3
Matrix: Water
Analysis Batch: 424001

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			07/11/18 10:30	1

Lab Sample ID: LCS 480-424001/4
Matrix: Water
Analysis Batch: 424001

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	0.183	^	mg/L		92	90 - 110		

Lab Sample ID: 480-138614-2 MS
Matrix: Water
Analysis Batch: 424001

Client Sample ID: MW-268S-20180710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
ortho-Phosphate	0.065	^	1.00	1.04	^	mg/L		98	49 - 138		

Lab Sample ID: 480-138614-2 MSD
Matrix: Water
Analysis Batch: 424001

Client Sample ID: MW-268S-20180710
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	0.065	^	1.00	1.03	^	mg/L		97	49 - 138	1	20

GC/MS VOA

Analysis Batch: 424051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	8260C	
480-138614-2	MW-268S-20180710	Total/NA	Water	8260C	
480-138614-3	MW-268M-20180710	Total/NA	Water	8260C	
480-138614-4	REW-11-20180710	Total/NA	Water	8260C	
480-138614-5	REW-12-20180710	Total/NA	Water	8260C	
480-138614-6	TRIP BLANKS	Total/NA	Water	8260C	
MB 480-424051/7	Method Blank	Total/NA	Water	8260C	
LCS 480-424051/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-424051/9	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 424087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-7	DUP-20180710	Total/NA	Water	8260C	
MB 480-424087/7	Method Blank	Total/NA	Water	8260C	
LCS 480-424087/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-424087/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Metals

Prep Batch: 424155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	3005A	
480-138614-2	MW-268S-20180710	Total/NA	Water	3005A	
480-138614-3	MW-268M-20180710	Total/NA	Water	3005A	
480-138614-4	REW-11-20180710	Total/NA	Water	3005A	
480-138614-5	REW-12-20180710	Total/NA	Water	3005A	
MB 480-424155/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-424155/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-424155/22-A	Lab Control Sample Dup	Total/NA	Water	3005A	
480-138614-2 MS	MW-268S-20180710	Total/NA	Water	3005A	
480-138614-2 MSD	MW-268S-20180710	Total/NA	Water	3005A	

Analysis Batch: 425140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	6010	424155
480-138614-2	MW-268S-20180710	Total/NA	Water	6010	424155
480-138614-3	MW-268M-20180710	Total/NA	Water	6010	424155
480-138614-4	REW-11-20180710	Total/NA	Water	6010	424155
480-138614-5	REW-12-20180710	Total/NA	Water	6010	424155
MB 480-424155/1-A	Method Blank	Total/NA	Water	6010	424155
LCS 480-424155/2-A	Lab Control Sample	Total/NA	Water	6010	424155
LCSD 480-424155/22-A	Lab Control Sample Dup	Total/NA	Water	6010	424155
480-138614-2 MS	MW-268S-20180710	Total/NA	Water	6010	424155
480-138614-2 MSD	MW-268S-20180710	Total/NA	Water	6010	424155

General Chemistry

Analysis Batch: 424001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	SM 4500 P E	

General Chemistry (Continued)

Analysis Batch: 424001 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-2	MW-268S-20180710	Total/NA	Water	SM 4500 P E	
480-138614-3	MW-268M-20180710	Total/NA	Water	SM 4500 P E	
480-138614-4	REW-11-20180710	Total/NA	Water	SM 4500 P E	
480-138614-5	REW-12-20180710	Total/NA	Water	SM 4500 P E	
MB 480-424001/3	Method Blank	Total/NA	Water	SM 4500 P E	
LCS 480-424001/4	Lab Control Sample	Total/NA	Water	SM 4500 P E	
480-138614-2 MS	MW-268S-20180710	Total/NA	Water	SM 4500 P E	
480-138614-2 MSD	MW-268S-20180710	Total/NA	Water	SM 4500 P E	

Analysis Batch: 424022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	SM 2320B	
480-138614-2	MW-268S-20180710	Total/NA	Water	SM 2320B	
480-138614-3	MW-268M-20180710	Total/NA	Water	SM 2320B	
480-138614-5	REW-12-20180710	Total/NA	Water	SM 2320B	
MB 480-424022/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-424022/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-424022/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 480-424022/8	Lab Control Sample	Total/NA	Water	SM 2320B	
480-138614-5 DU	REW-12-20180710	Total/NA	Water	SM 2320B	

Analysis Batch: 424078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	353.2	
480-138614-2	MW-268S-20180710	Total/NA	Water	353.2	
480-138614-3	MW-268M-20180710	Total/NA	Water	353.2	
480-138614-4	REW-11-20180710	Total/NA	Water	353.2	
480-138614-5	REW-12-20180710	Total/NA	Water	353.2	

Prep Batch: 424444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	Distill/Ammonia	
480-138614-2	MW-268S-20180710	Total/NA	Water	Distill/Ammonia	
480-138614-3	MW-268M-20180710	Total/NA	Water	Distill/Ammonia	
480-138614-4	REW-11-20180710	Total/NA	Water	Distill/Ammonia	
480-138614-5	REW-12-20180710	Total/NA	Water	Distill/Ammonia	
MB 480-424444/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 480-424444/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 424569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	350.1	424444
480-138614-2	MW-268S-20180710	Total/NA	Water	350.1	424444
480-138614-3	MW-268M-20180710	Total/NA	Water	350.1	424444
480-138614-4	REW-11-20180710	Total/NA	Water	350.1	424444
480-138614-5	REW-12-20180710	Total/NA	Water	350.1	424444
MB 480-424444/1-A	Method Blank	Total/NA	Water	350.1	424444
LCS 480-424444/2-A	Lab Control Sample	Total/NA	Water	350.1	424444

General Chemistry (Continued)

Analysis Batch: 424846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	300.0	
480-138614-2	MW-268S-20180710	Total/NA	Water	300.0	
480-138614-3	MW-268M-20180710	Total/NA	Water	300.0	
480-138614-4	REW-11-20180710	Total/NA	Water	300.0	
480-138614-5	REW-12-20180710	Total/NA	Water	300.0	
MB 480-424846/28	Method Blank	Total/NA	Water	300.0	
LCS 480-424846/27	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 424940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-4	REW-11-20180710	Total/NA	Water	SM 2320B	
MB 480-424940/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-424940/31	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 425037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	9040C	
480-138614-2	MW-268S-20180710	Total/NA	Water	9040C	
480-138614-3	MW-268M-20180710	Total/NA	Water	9040C	
480-138614-4	REW-11-20180710	Total/NA	Water	9040C	
480-138614-5	REW-12-20180710	Total/NA	Water	9040C	
LCS 480-425037/1	Lab Control Sample	Total/NA	Water	9040C	
480-138614-4 DU	REW-11-20180710	Total/NA	Water	9040C	

Analysis Batch: 425344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-1	MW-267S-20180710	Total/NA	Water	9060A	
480-138614-2	MW-268S-20180710	Total/NA	Water	9060A	
480-138614-3	MW-268M-20180710	Total/NA	Water	9060A	
480-138614-5	REW-12-20180710	Total/NA	Water	9060A	
MB 480-425344/28	Method Blank	Total/NA	Water	9060A	
MB 480-425344/4	Method Blank	Total/NA	Water	9060A	
LCS 480-425344/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-425344/5	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 425698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138614-4	REW-11-20180710	Total/NA	Water	9060A	
MB 480-425698/4	Method Blank	Total/NA	Water	9060A	
MB 480-425698/52	Method Blank	Total/NA	Water	9060A	
LCS 480-425698/5	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-425698/53	Lab Control Sample	Total/NA	Water	9060A	

Client Sample ID: MW-267S-20180710

Lab Sample ID: 480-138614-1

Date Collected: 07/10/18 11:00

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	424051	07/12/18 02:39	AMM	TAL BUF
Total/NA	Prep	3005A			424155	07/13/18 09:01	VEG	TAL BUF
Total/NA	Analysis	6010		5	425140	07/13/18 19:25	AMH	TAL BUF
Total/NA	Analysis	300.0		5	424846	07/17/18 20:36	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424444	07/13/18 18:41	MLS	TAL BUF
Total/NA	Analysis	350.1		1	424569	07/16/18 09:38	CLT	TAL BUF
Total/NA	Analysis	353.2		1	424078	07/11/18 21:20	DCB	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:29	JAH	TAL BUF
Total/NA	Analysis	9060A		1	425344	07/18/18 12:15	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424022	07/11/18 14:27	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424001	07/11/18 10:30	KEB	TAL BUF

Client Sample ID: MW-268S-20180710

Lab Sample ID: 480-138614-2

Date Collected: 07/10/18 08:20

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	424051	07/12/18 03:07	AMM	TAL BUF
Total/NA	Prep	3005A			424155	07/13/18 09:01	VEG	TAL BUF
Total/NA	Analysis	6010		1	425140	07/13/18 19:32	AMH	TAL BUF
Total/NA	Analysis	300.0		1	424846	07/17/18 20:44	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424444	07/13/18 18:41	MLS	TAL BUF
Total/NA	Analysis	350.1		1	424569	07/16/18 09:39	CLT	TAL BUF
Total/NA	Analysis	353.2		1	424078	07/11/18 18:48	DCB	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:32	JAH	TAL BUF
Total/NA	Analysis	9060A		1	425344	07/18/18 12:43	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424022	07/11/18 14:32	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424001	07/11/18 10:30	KEB	TAL BUF

Client Sample ID: MW-268M-20180710

Lab Sample ID: 480-138614-3

Date Collected: 07/10/18 09:05

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	424051	07/12/18 03:36	AMM	TAL BUF
Total/NA	Prep	3005A			424155	07/13/18 09:01	VEG	TAL BUF
Total/NA	Analysis	6010		1	425140	07/13/18 20:00	AMH	TAL BUF
Total/NA	Analysis	300.0		2	424846	07/17/18 20:52	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424444	07/13/18 18:41	MLS	TAL BUF
Total/NA	Analysis	350.1		1	424569	07/16/18 09:40	CLT	TAL BUF
Total/NA	Analysis	353.2		1	424078	07/11/18 21:21	DCB	TAL BUF

Client Sample ID: MW-268M-20180710

Lab Sample ID: 480-138614-3

Date Collected: 07/10/18 09:05

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040C		1	425037	07/18/18 08:35	JAH	TAL BUF
Total/NA	Analysis	9060A		1	425344	07/18/18 13:11	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424022	07/11/18 14:38	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424001	07/11/18 10:30	KEB	TAL BUF

Client Sample ID: REW-11-20180710

Lab Sample ID: 480-138614-4

Date Collected: 07/10/18 10:00

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	424051	07/12/18 04:05	AMM	TAL BUF
Total/NA	Prep	3005A			424155	07/13/18 09:01	VEG	TAL BUF
Total/NA	Analysis	6010		1	425140	07/13/18 20:04	AMH	TAL BUF
Total/NA	Analysis	300.0		10	424846	07/17/18 21:00	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424444	07/13/18 18:41	MLS	TAL BUF
Total/NA	Analysis	350.1		1	424569	07/16/18 09:41	CLT	TAL BUF
Total/NA	Analysis	353.2		1	424078	07/11/18 18:52	DCB	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:38	JAH	TAL BUF
Total/NA	Analysis	9060A		80	425698	07/19/18 23:44	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424940	07/16/18 20:04	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424001	07/11/18 10:30	KEB	TAL BUF

Client Sample ID: REW-12-20180710

Lab Sample ID: 480-138614-5

Date Collected: 07/10/18 11:55

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	424051	07/12/18 04:34	AMM	TAL BUF
Total/NA	Prep	3005A			424155	07/13/18 09:01	VEG	TAL BUF
Total/NA	Analysis	6010		1	425140	07/13/18 20:11	AMH	TAL BUF
Total/NA	Analysis	300.0		2	424846	07/17/18 21:08	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424444	07/13/18 18:41	MLS	TAL BUF
Total/NA	Analysis	350.1		10	424569	07/16/18 09:57	CLT	TAL BUF
Total/NA	Analysis	353.2		1	424078	07/11/18 21:22	DCB	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:47	JAH	TAL BUF
Total/NA	Analysis	9060A		20	425344	07/18/18 16:54	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424022	07/11/18 11:56	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424001	07/11/18 10:30	KEB	TAL BUF

Lab Chronicle

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

TestAmerica Job ID: 480-138614-1

Client Sample ID: TRIP BLANKS

Lab Sample ID: 480-138614-6

Date Collected: 07/10/18 00:00

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	424051	07/12/18 05:03	AMM	TAL BUF

Client Sample ID: DUP-20180710

Lab Sample ID: 480-138614-7

Date Collected: 07/10/18 00:00

Matrix: Water

Date Received: 07/11/18 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	424087	07/12/18 12:12	KMN	TAL BUF

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 480-138614-1

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	07-06-19
California	State Program	9	2931	04-01-19
Connecticut	State Program	1	PH-0568	09-30-18
Florida	NELAP	4	E87672	06-30-18 *
Georgia	State Program	4	10026 (NY)	03-31-19
Illinois	NELAP	5	200003	09-30-18
Iowa	State Program	7	374	03-01-19
Kansas	NELAP	7	E-10187	01-31-19
Kentucky (DW)	State Program	4	90029	12-31-18
Kentucky (UST)	State Program	4	30	03-31-19
Kentucky (WW)	State Program	4	90029	12-31-18
Louisiana	NELAP	6	02031	06-30-18 *
Maine	State Program	1	NY00044	12-04-18
Maryland	State Program	3	294	03-31-19
Massachusetts	State Program	1	M-NY044	06-30-19
Michigan	State Program	5	9937	03-31-19
Minnesota	NELAP	5	036-999-337	12-31-18
New Hampshire	NELAP	1	2337	11-17-18
New Jersey	NELAP	2	NY455	06-30-18 *
New York	NELAP	2	10026	03-31-19
North Dakota	State Program	8	R-176	03-31-19
Oklahoma	State Program	6	9421	08-31-18
Oregon	NELAP	10	NY200003	06-09-19
Pennsylvania	NELAP	3	68-00281	07-31-18 *
Rhode Island	State Program	1	LAO00328	12-30-18
Tennessee	State Program	4	TN02970	03-31-19
Texas	NELAP	6	T104704412-15-6	07-31-18 *
USDA	Federal		P330-11-00386	02-06-21
Virginia	NELAP	3	460185	09-14-18
Washington	State Program	10	C784	02-10-19
Wisconsin	State Program	5	998310390	08-31-18

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

Method Summary

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

TestAmerica Job ID: 480-138614-1

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
3005A	Preparation, Total Metals	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF
Distill/Ammonia	Distillation, Ammonia	None	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.

None = None

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: 480-138614-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-138614-1	MW-267S-20180710	Water	07/10/18 11:00	07/11/18 02:00
480-138614-2	MW-268S-20180710	Water	07/10/18 08:20	07/11/18 02:00
480-138614-3	MW-268M-20180710	Water	07/10/18 09:05	07/11/18 02:00
480-138614-4	REW-11-20180710	Water	07/10/18 10:00	07/11/18 02:00
480-138614-5	REW-12-20180710	Water	07/10/18 11:55	07/11/18 02:00
480-138614-6	TRIP BLANKS	Water	07/10/18 00:00	07/11/18 02:00
480-138614-7	DUP-20180710	Water	07/10/18 00:00	07/11/18 02:00

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 480-138614-1

Login Number: 138614

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

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

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360325-Boston

TestAmerica Boston
240 Bear Hill Road -- Suite 104
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360325-Boston 360325-Boston 360325-Boston

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

480-138614 COC

Client Information:	Sample Collector's Name (Please Print Neatly): Davy Davis	Lab PM:
Client Contact: Vicki Panizza	Sample Collector's Phone: 508-404-3196	E-Mail:
Company: Innovative Engineering Solutions Inc		
Address: 25 Spring St	Due Date Requested: 7/17/18	
City: Walpole	Turnaround Time (TAT) Requested (business days): 5 days	
State and Zip: MA 02081		
Client's Phone: 508-668-0033	Quote # or Project #:	
Client's Contact Email: v.panizza@IESTonline.com	PO #: RA-008	
Client's Project Name/Number: Raytheon Wayland RA-008	WO #:	
Sample Collection Site Name & Location: Wayland MA	PWS ID #:	

COC No: 40792
Page: 1 of 1
Job #:

Analysis Requested: 8260 MCP; 350.1 NH3; 6010 MCP Total Iron; 9060A TOC; 2320B Alkalinity; 300.0-2580 SO4 Cl NO3 NO2 Fe2; 4500-F-E Ortho Phosphate 353.2 Nitrate-Nitrite

Sample Identification	Sample Collection Date (MM/DD/YY)	Sample Collection Time (24 Hour Clock)	Sample Type: C=Comp G=Grab	Matrix Type **	8260 MCP	350.1 NH3	6010 MCP Total Iron	9060A TOC	2320B Alkalinity	300.0-2580	4500-P-E / 353.2	Total Number of Containers	Special Instructions & Notes:
Preservation Codes =>					A	S	D	A	N	N	N		
MW-262S-20180710	7/10/18	1100	G	W	X	X	X	X	X	X	X	10	GW-3 Requirement
MW-268S-20180710	7/10/18	0820	G	W	X	X	X	X	X	X	X	10	
MW-268M-20180710	7/10/18	0905	G	W	X	X	X	X	X	X	X	10	
REW-11-20180710	7/10/18	1000	G	W	X	X	X	X	X	X	X	10	
REW-12-20180710	7/10/18	1155	G	W	X	X	X	X	X	X	X	10	
Trip Blank	—	—	—	W	X							2	
Dup-20180710	7/10/18	—	G	W	X							3	
Temp Blank	—	—	—	W								1	

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 ☐ RCP ☐ DEP Form ☐ eDEP Filing ☐ GW1/S1 ☐ CT RSR ☐ EDD Required ☐ 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 Test-America to use certified, subcontract labs, without any additional notification made by us, as necessary to fulfill your work order.

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

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/10/18 1240	IEST	To TEST America Lock Box		TA 7/10/18 1245
[signature]	7-10-18 [illegible]	TA	[signature]	7-11-18 0200	TAB

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.4 #1

WI-QA-010 rev 8
Revised 10/29/2014
TAL-8245-360R

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: 480-138693-1
Client Project/Site: IDS Wayland

For:
Innovative Engineering Solutions, Inc
25 Spring Street
Walpole, Massachusetts 02081

Attn: Vicki Pariyar

Authorized for release by:
7/30/2018 1:39:37 PM

Becky Mason, Project Manager II
(413)572-4000
becky.mason@testamericainc.com

Table of Contents

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.
H	Sample was prepped or analyzed beyond the specified holding time
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Job ID: 480-138693-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-138693-1

Receipt
The samples were received on 7/12/2018 1:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7º 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: Due to the dilutions required, per question G on the MassDEP Analytical Protocol Certification Form, the CAM reporting limits specified in this CAM protocol could not be achieved for some or all samples/analytes.

Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-562-20180711 (480-138693-1) and REW-6-20180711 (480-138693-3). Elevated reporting limits (RLs) are provided.

Method 8260C: The laboratory control sample duplicate (LCSD) for batch 480-424542 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-562-20180711 (480-138693-1) and MW-563-20180711 (480-138693-2).

Method 8260C: The continuing calibration verification (CCV) for Dichlorodifluoromethane. associated with batch 480-424542 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-562-20180711 (480-138693-1) and MW-563-20180711 (480-138693-2).

Method 8260C: The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for batch 480-424542 exceeded control limits for the following analyte: 2-Hexanone. Unlike the calibration standards, this is due to the co-elution with n-butyl Acetate in the spiking solution. This does not indicate a performance issue with the spike recovery, but rather the laboratory's ability to measure the two analytes together in a combined spiking solution. Through the use of spectral analysis, the two compounds can be distinguished from one another if present in a client sample. The following samples were affected : MW-562-20180711 (480-138693-1) and MW-563-20180711 (480-138693-2).

Method 8260C: The following sample 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: REW-6-20180711 (480-138693-3).
The sample was analyzed within 7 days per EPA recommendation.

Method 8260C: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 480-424744 recovered outside control limits for the following analyte: 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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 sample was diluted to bring the concentration of target analytes within the calibration range: REW-6-20180711 (480-138693-3). Elevated reporting limits (RLs) are provided.

Method(300.0: The following sample was reported with elevated reporting limits for all analytes: MW-562-20180711 (480-138693-1). The sample was analyzed at a dilution based on screening results.

Job ID: 480-138693-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

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 MCP analyte 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 353.2: The following samples were analyzed outside of analytical holding time due to instrument malfunction. MW-562-20180711 (480-138693-1) and REW-6-20180711 (480-138693-3).

Method 9040C: 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-562-20180711 (480-138693-1), MW-563-20180711 (480-138693-2), REW-6-20180711 (480-138693-3) and REW-7-20180711 (480-138693-4).

Method 9060A: The continuing calibration blank for batch 480-425344 contained Total Organic Carbon above the reporting limit (RL). None of the samples associated with this blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. MW-563-20180711 (480-138693-2)

Metho 9060A: The continuing calibration verification (CCV) associated with batch 480-425344 recovered above the upper control limit for Total Organic Carbon. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: MW-563-20180711 (480-138693-2).

Method Distill/Ammonia: The following samples were diluted due to the nature of the sample matrix: MW-562-20180711 (480-138693-1) and REW-6-20180711 (480-138693-3). 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.

MassDEP Analytical Protocol Certification Form

Laboratory Name: **TestAmerica Buffalo** Project #: **480-138693-1**

Project Location: **Wayland MA** RTN:

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

480-138693-1[1-5]

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

CAM Protocols (check all that apply below):

8260 VOC CAM II A ■	7470/7471 Hg CAM III B ☐	Mass DEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	Mass DEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	Mass DEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ■	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 / 9014/ 4500CN Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

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

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

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ■ No[1]

***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**

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ■ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?	☐ Yes ■ No[1]

[1] 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: Becky Mason Position: Project Manager

Printed Name: Becky Mason Date: 7/30/18 13:36

This form has been electronically signed and approved

Detection Summary

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

TestAmerica Job ID: 480-138693-1

Client Sample ID: MW-562-20180711 — Lab Sample ID: 480-138693-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m-Xylene & p-Xylene	4.1		4.0		ug/L	2		8260C	Total/NA
Toluene	2.8		2.0		ug/L	2		8260C	Total/NA
Iron	110		0.050		mg/L	1		6010	Total/NA
Chloride	11		1.0		mg/L	2		300.0	Total/NA
Ammonia	3.9		0.40		mg/L	1		350.1	Total/NA
Nitrate as N	0.090	H	0.050		mg/L	1		353.2	Total/NA
TOC Result 1	11		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	11		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	11		1.0		mg/L	1		9060A	Total/NA
Alkalinity, Total	330		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.56		0.020		mg/L	1		SM 4500 P E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.3	HF	0.1		SU	1		9040C	Total/NA
Temperature	20.9	HF	0.001		Degrees C	1		9040C	Total/NA

Client Sample ID: MW-563-20180711 — Lab Sample ID: 480-138693-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	14		0.050		mg/L	1		6010	Total/NA
Chloride	11		0.50		mg/L	1		300.0	Total/NA
Ammonia	0.60		0.20		mg/L	1		350.1	Total/NA
Alkalinity, Total	130		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.021		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	20.9	HF	0.001		Degrees C	1		9040C	Total/NA

Client Sample ID: REW-6-20180711 — Lab Sample ID: 480-138693-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	590		200		ug/L	20		8260C	Total/NA
Iron	140		0.050		mg/L	1		6010	Total/NA
Chloride	80		5.0		mg/L	10		300.0	Total/NA
Ammonia	0.68		0.40		mg/L	1		350.1	Total/NA
Nitrate as N	0.050	H	0.050		mg/L	1		353.2	Total/NA
TOC Result 1	1800		40		mg/L	40		9060A	Total/NA
TOC Result 2	1800		40		mg/L	40		9060A	Total/NA
Total Organic Carbon - Duplicates	1800		40		mg/L	40		9060A	Total/NA
Alkalinity, Total	840		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.18		0.020		mg/L	1		SM 4500 P E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.5	HF	0.1		SU	1		9040C	Total/NA
Temperature	20.9	HF	0.001		Degrees C	1		9040C	Total/NA

Client Sample ID: REW-7-20180711 — Lab Sample ID: 480-138693-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	5.3		0.050		mg/L	1		6010	Total/NA
Chloride	7.9		0.50		mg/L	1		300.0	Total/NA
Sulfate	23		2.0		mg/L	1		300.0	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: 480-138693-1

Client Sample ID: REW-7-20180711 (Continued) — Lab Sample ID: 480-138693-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia	1.1		0.20		mg/L	1		350.1	Total/NA
Alkalinity, Total	62		5.0		mg/L	1		SM 2320B	Total/NA
ortho-Phosphate	0.073		0.020		mg/L	1		SM 4500 P E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.9	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: 480-138693-5

No Detections.

This Detection Summary does not include radiochemical test results.

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

TestAmerica Job ID: 480-138693-1

Client Sample ID: MW-562-20180711
Date Collected: 07/11/18 10:55
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-1
Matrix: Water

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			07/16/18 12:34	2
1,1,1-Trichloroethane	ND		2.0		ug/L			07/16/18 12:34	2
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/16/18 12:34	2
1,1,2-Trichloroethane	ND		2.0		ug/L			07/16/18 12:34	2
1,1-Dichloroethane	ND		2.0		ug/L			07/16/18 12:34	2
1,1-Dichloroethene	ND		2.0		ug/L			07/16/18 12:34	2
1,1-Dichloropropene	ND		2.0		ug/L			07/16/18 12:34	2
1,2,3-Trichlorobenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,2,3-Trichloropropane	ND		2.0		ug/L			07/16/18 12:34	2
1,2,4-Trichlorobenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			07/16/18 12:34	2
1,2-Dichlorobenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,2-Dichloroethane	ND		2.0		ug/L			07/16/18 12:34	2
1,2-Dichloropropane	ND		2.0		ug/L			07/16/18 12:34	2
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,3-Dichlorobenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,3-Dichloropropane	ND		2.0		ug/L			07/16/18 12:34	2
1,4-Dichlorobenzene	ND		2.0		ug/L			07/16/18 12:34	2
1,4-Dioxane	ND		100		ug/L			07/16/18 12:34	2
2,2-Dichloropropane	ND		2.0		ug/L			07/16/18 12:34	2
2-Butanone (MEK)	ND		20		ug/L			07/16/18 12:34	2
2-Chlorotoluene	ND		2.0		ug/L			07/16/18 12:34	2
2-Hexanone	ND	*	20		ug/L			07/16/18 12:34	2
4-Chlorotoluene	ND		2.0		ug/L			07/16/18 12:34	2
4-Isopropyltoluene	ND		2.0		ug/L			07/16/18 12:34	2
4-Methyl-2-pentanone (MIBK)	ND		20		ug/L			07/16/18 12:34	2
Acetone	ND		100		ug/L			07/16/18 12:34	2
Benzene	ND		2.0		ug/L			07/16/18 12:34	2
Bromobenzene	ND		2.0		ug/L			07/16/18 12:34	2
Bromoform	ND		2.0		ug/L			07/16/18 12:34	2
Bromomethane	ND		4.0		ug/L			07/16/18 12:34	2
Carbon disulfide	ND		20		ug/L			07/16/18 12:34	2
Carbon tetrachloride	ND		2.0		ug/L			07/16/18 12:34	2
Chlorobenzene	ND		2.0		ug/L			07/16/18 12:34	2
Chlorobromomethane	ND		2.0		ug/L			07/16/18 12:34	2
Chlorodibromomethane	ND		1.0		ug/L			07/16/18 12:34	2
Chloroethane	ND		4.0		ug/L			07/16/18 12:34	2
Chloroform	ND		2.0		ug/L			07/16/18 12:34	2
Chloromethane	ND		4.0		ug/L			07/16/18 12:34	2
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/16/18 12:34	2
cis-1,3-Dichloropropene	ND		0.80		ug/L			07/16/18 12:34	2
Dichlorobromomethane	ND		1.0		ug/L			07/16/18 12:34	2
Dichlorodifluoromethane	ND	*	2.0		ug/L			07/16/18 12:34	2
Ethyl ether	ND		2.0		ug/L			07/16/18 12:34	2
Ethylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
Ethylene Dibromide	ND		2.0		ug/L			07/16/18 12:34	2
Hexachlorobutadiene	ND		0.80		ug/L			07/16/18 12:34	2
Isopropyl ether	ND		20		ug/L			07/16/18 12:34	2

Client Sample ID: MW-562-20180711
Date Collected: 07/11/18 10:55
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-1
Matrix: Water

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			07/16/18 12:34	2
Methyl tert-butyl ether	ND		2.0		ug/L			07/16/18 12:34	2
Methylene Chloride	ND		2.0		ug/L			07/16/18 12:34	2
m-Xylene & p-Xylene	**4.1**		4.0		ug/L			07/16/18 12:34	2
Naphthalene	ND		10		ug/L			07/16/18 12:34	2
n-Butylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
N-Propylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
o-Xylene	ND		2.0		ug/L			07/16/18 12:34	2
sec-Butylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
Styrene	ND		2.0		ug/L			07/16/18 12:34	2
Tert-amyl methyl ether	ND		10		ug/L			07/16/18 12:34	2
Tert-butyl ethyl ether	ND		10		ug/L			07/16/18 12:34	2
tert-Butylbenzene	ND		2.0		ug/L			07/16/18 12:34	2
Tetrachloroethene	ND		2.0		ug/L			07/16/18 12:34	2
Tetrahydrofuran	ND		20		ug/L			07/16/18 12:34	2
Toluene	**2.8**		2.0		ug/L			07/16/18 12:34	2
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/16/18 12:34	2
trans-1,3-Dichloropropene	ND		0.80		ug/L			07/16/18 12:34	2
Trichloroethene	ND		2.0		ug/L			07/16/18 12:34	2
Trichlorofluoromethane	ND		2.0		ug/L			07/16/18 12:34	2
Vinyl chloride	ND		2.0		ug/L			07/16/18 12:34	2
Dibromomethane	ND		2.0		ug/L			07/16/18 12:34	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/16/18 12:34*	*2*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*07/16/18 12:34*	*2*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*07/16/18 12:34*	*2*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**110**		0.050		mg/L		07/14/18 08:00	07/17/18 00:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11**		1.0		mg/L			07/17/18 21:16	2
Sulfate	ND		4.0		mg/L			07/17/18 21:16	2
Ammonia	**3.9**		0.40		mg/L		07/12/18 19:06	07/13/18 10:49	1
Nitrate as N	**0.090**	**H**	0.050		mg/L			07/19/18 15:23	1
TOC Result 1	**11**		1.0		mg/L			07/20/18 00:12	1
TOC Result 2	**11**		1.0		mg/L			07/20/18 00:12	1
Total Organic Carbon - Duplicates	**11**		1.0		mg/L			07/20/18 00:12	1
Alkalinity, Total	**330**		5.0		mg/L			07/16/18 20:56	1
ortho-Phosphate	**0.56**		0.020		mg/L			07/12/18 14:02	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.3**	**HF**	0.1		SU			07/18/18 08:50	1
Temperature	**20.9**	**HF**	0.001		Degrees C			07/18/18 08:50	1

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

TestAmerica Job ID: 480-138693-1

Client Sample ID: MW-563-20180711
Date Collected: 07/11/18 10:00
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-2
Matrix: Water

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			07/16/18 13:02	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/16/18 13:02	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/16/18 13:02	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/16/18 13:02	1
1,1-Dichloroethane	ND		1.0		ug/L			07/16/18 13:02	1
1,1-Dichloroethene	ND		1.0		ug/L			07/16/18 13:02	1
1,1-Dichloropropene	ND		1.0		ug/L			07/16/18 13:02	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/16/18 13:02	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/16/18 13:02	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,2-Dichloroethane	ND		1.0		ug/L			07/16/18 13:02	1
1,2-Dichloropropane	ND		1.0		ug/L			07/16/18 13:02	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,3-Dichloropropane	ND		1.0		ug/L			07/16/18 13:02	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/16/18 13:02	1
1,4-Dioxane	ND		50		ug/L			07/16/18 13:02	1
2,2-Dichloropropane	ND		1.0		ug/L			07/16/18 13:02	1
2-Butanone (MEK)	ND		10		ug/L			07/16/18 13:02	1
2-Chlorotoluene	ND		1.0		ug/L			07/16/18 13:02	1
2-Hexanone	ND	*	10		ug/L			07/16/18 13:02	1
4-Chlorotoluene	ND		1.0		ug/L			07/16/18 13:02	1
4-Isopropyltoluene	ND		1.0		ug/L			07/16/18 13:02	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/16/18 13:02	1
Acetone	ND		50		ug/L			07/16/18 13:02	1
Benzene	ND		1.0		ug/L			07/16/18 13:02	1
Bromobenzene	ND		1.0		ug/L			07/16/18 13:02	1
Bromoform	ND		1.0		ug/L			07/16/18 13:02	1
Bromomethane	ND		2.0		ug/L			07/16/18 13:02	1
Carbon disulfide	ND		10		ug/L			07/16/18 13:02	1
Carbon tetrachloride	ND		1.0		ug/L			07/16/18 13:02	1
Chlorobenzene	ND		1.0		ug/L			07/16/18 13:02	1
Chlorobromomethane	ND		1.0		ug/L			07/16/18 13:02	1
Chlorodibromomethane	ND		0.50		ug/L			07/16/18 13:02	1
Chloroethane	ND		2.0		ug/L			07/16/18 13:02	1
Chloroform	ND		1.0		ug/L			07/16/18 13:02	1
Chloromethane	ND		2.0		ug/L			07/16/18 13:02	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/16/18 13:02	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/16/18 13:02	1
Dichlorobromomethane	ND		0.50		ug/L			07/16/18 13:02	1
Dichlorodifluoromethane	ND	*	1.0		ug/L			07/16/18 13:02	1
Ethyl ether	ND		1.0		ug/L			07/16/18 13:02	1
Ethylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
Ethylene Dibromide	ND		1.0		ug/L			07/16/18 13:02	1
Hexachlorobutadiene	ND		0.40		ug/L			07/16/18 13:02	1
Isopropyl ether	ND		10		ug/L			07/16/18 13:02	1

Client Sample ID: MW-563-20180711
Date Collected: 07/11/18 10:00
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-2
Matrix: Water

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			07/16/18 13:02	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/16/18 13:02	1
Methylene Chloride	ND		1.0		ug/L			07/16/18 13:02	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/16/18 13:02	1
Naphthalene	ND		5.0		ug/L			07/16/18 13:02	1
n-Butylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
N-Propylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
o-Xylene	ND		1.0		ug/L			07/16/18 13:02	1
sec-Butylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
Styrene	ND		1.0		ug/L			07/16/18 13:02	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/16/18 13:02	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/16/18 13:02	1
tert-Butylbenzene	ND		1.0		ug/L			07/16/18 13:02	1
Tetrachloroethene	ND		1.0		ug/L			07/16/18 13:02	1
Tetrahydrofuran	ND		10		ug/L			07/16/18 13:02	1
Toluene	ND		1.0		ug/L			07/16/18 13:02	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/16/18 13:02	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/16/18 13:02	1
Trichloroethene	ND		1.0		ug/L			07/16/18 13:02	1
Trichlorofluoromethane	ND		1.0		ug/L			07/16/18 13:02	1
Vinyl chloride	ND		1.0		ug/L			07/16/18 13:02	1
Dibromomethane	ND		1.0		ug/L			07/16/18 13:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*07/16/18 13:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*07/16/18 13:02*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/16/18 13:02*	*1*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**14**		0.050		mg/L		07/14/18 08:00	07/17/18 00:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11**		0.50		mg/L			07/17/18 21:25	1
Sulfate	ND		2.0		mg/L			07/17/18 21:25	1
Ammonia	**0.60**		0.20		mg/L		07/12/18 19:06	07/13/18 10:50	1
Nitrate as N	ND	H	0.050		mg/L			07/19/18 15:23	1
TOC Result 1	ND		1.0		mg/L			07/19/18 05:28	1
TOC Result 2	ND	^	1.0		mg/L			07/19/18 05:28	1
Total Organic Carbon - Duplicates	ND	^	1.0		mg/L			07/19/18 05:28	1
Alkalinity, Total	**130**		5.0		mg/L			07/16/18 21:00	1
ortho-Phosphate	**0.021**		0.020		mg/L			07/12/18 14:02	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.3**	**HF**	0.1		SU			07/18/18 08:53	1
Temperature	**20.9**	**HF**	0.001		Degrees C			07/18/18 08:53	1

Client Sample ID: REW-6-20180711
Date Collected: 07/11/18 08:10
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		20		ug/L			07/17/18 13:09	20
1,1,1-Trichloroethane	ND		20		ug/L			07/17/18 13:09	20
1,1,2,2-Tetrachloroethane	ND		10		ug/L			07/17/18 13:09	20
1,1,2-Trichloroethane	ND		20		ug/L			07/17/18 13:09	20
1,1-Dichloroethane	ND		20		ug/L			07/17/18 13:09	20
1,1-Dichloroethene	ND		20		ug/L			07/17/18 13:09	20
1,1-Dichloropropene	ND		20		ug/L			07/17/18 13:09	20
1,2,3-Trichlorobenzene	ND		20		ug/L			07/17/18 13:09	20
1,2,3-Trichloropropane	ND		20		ug/L			07/17/18 13:09	20
1,2,4-Trichlorobenzene	ND		20		ug/L			07/17/18 13:09	20
1,2,4-Trimethylbenzene	ND		20		ug/L			07/17/18 13:09	20
1,2-Dibromo-3-Chloropropane	ND		100		ug/L			07/17/18 13:09	20
1,2-Dichlorobenzene	ND		20		ug/L			07/17/18 13:09	20
1,2-Dichloroethane	ND		20		ug/L			07/17/18 13:09	20
1,2-Dichloropropane	ND		20		ug/L			07/17/18 13:09	20
1,3,5-Trimethylbenzene	ND		20		ug/L			07/17/18 13:09	20
1,3-Dichlorobenzene	ND		20		ug/L			07/17/18 13:09	20
1,3-Dichloropropane	ND		20		ug/L			07/17/18 13:09	20
1,4-Dichlorobenzene	ND		20		ug/L			07/17/18 13:09	20
1,4-Dioxane	ND		1000		ug/L			07/17/18 13:09	20
2,2-Dichloropropane	ND		20		ug/L			07/17/18 13:09	20
2-Butanone (MEK)	**590**		200		ug/L			07/17/18 13:09	20
2-Chlorotoluene	ND		20		ug/L			07/17/18 13:09	20
2-Hexanone	ND	*	200		ug/L			07/17/18 13:09	20
4-Chlorotoluene	ND		20		ug/L			07/17/18 13:09	20
4-Isopropyltoluene	ND		20		ug/L			07/17/18 13:09	20
4-Methyl-2-pentanone (MIBK)	ND		200		ug/L			07/17/18 13:09	20
Acetone	ND		1000		ug/L			07/17/18 13:09	20
Benzene	ND		20		ug/L			07/17/18 13:09	20
Bromobenzene	ND		20		ug/L			07/17/18 13:09	20
Bromoform	ND		20		ug/L			07/17/18 13:09	20
Bromomethane	ND		40		ug/L			07/17/18 13:09	20
Carbon disulfide	ND		200		ug/L			07/17/18 13:09	20
Carbon tetrachloride	ND		20		ug/L			07/17/18 13:09	20
Chlorobenzene	ND		20		ug/L			07/17/18 13:09	20
Chlorobromomethane	ND		20		ug/L			07/17/18 13:09	20
Chlorodibromomethane	ND		10		ug/L			07/17/18 13:09	20
Chloroethane	ND		40		ug/L			07/17/18 13:09	20
Chloroform	ND		20		ug/L			07/17/18 13:09	20
Chloromethane	ND		40		ug/L			07/17/18 13:09	20
cis-1,2-Dichloroethene	ND		20		ug/L			07/17/18 13:09	20
cis-1,3-Dichloropropene	ND		8.0		ug/L			07/17/18 13:09	20
Dichlorobromomethane	ND		10		ug/L			07/17/18 13:09	20
Dichlorodifluoromethane	ND		20		ug/L			07/17/18 13:09	20
Ethyl ether	ND		20		ug/L			07/17/18 13:09	20
Ethylbenzene	ND		20		ug/L			07/17/18 13:09	20
Ethylene Dibromide	ND		20		ug/L			07/17/18 13:09	20
Hexachlorobutadiene	ND		8.0		ug/L			07/17/18 13:09	20
Isopropyl ether	ND		200		ug/L			07/17/18 13:09	20

Client Sample ID: REW-6-20180711
Date Collected: 07/11/18 08:10
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		20		ug/L			07/17/18 13:09	20
Methyl tert-butyl ether	ND		20		ug/L			07/17/18 13:09	20
Methylene Chloride	ND		20		ug/L			07/17/18 13:09	20
m-Xylene & p-Xylene	ND		40		ug/L			07/17/18 13:09	20
Naphthalene	ND		100		ug/L			07/17/18 13:09	20
n-Butylbenzene	ND		20		ug/L			07/17/18 13:09	20
N-Propylbenzene	ND		20		ug/L			07/17/18 13:09	20
o-Xylene	ND		20		ug/L			07/17/18 13:09	20
sec-Butylbenzene	ND		20		ug/L			07/17/18 13:09	20
Styrene	ND		20		ug/L			07/17/18 13:09	20
Tert-amyl methyl ether	ND		100		ug/L			07/17/18 13:09	20
Tert-butyl ethyl ether	ND		100		ug/L			07/17/18 13:09	20
tert-Butylbenzene	ND		20		ug/L			07/17/18 13:09	20
Tetrachloroethene	ND		20		ug/L			07/17/18 13:09	20
Tetrahydrofuran	ND		200		ug/L			07/17/18 13:09	20
Toluene	ND		20		ug/L			07/17/18 13:09	20
trans-1,2-Dichloroethene	ND		20		ug/L			07/17/18 13:09	20
trans-1,3-Dichloropropene	ND		8.0		ug/L			07/17/18 13:09	20
Trichloroethene	ND		20		ug/L			07/17/18 13:09	20
Trichlorofluoromethane	ND		20		ug/L			07/17/18 13:09	20
Vinyl chloride	ND		20		ug/L			07/17/18 13:09	20
Dibromomethane	ND		20		ug/L			07/17/18 13:09	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*07/17/18 13:09*	*20*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*07/17/18 13:09*	*20*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/17/18 13:09*	*20*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**140**		0.050		mg/L		07/14/18 08:00	07/17/18 00:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**80**		5.0		mg/L			07/17/18 21:33	10
Sulfate	ND		20		mg/L			07/17/18 21:33	10
Ammonia	**0.68**		0.40		mg/L		07/12/18 19:06	07/13/18 10:51	1
Nitrate as N	**0.050**	**H**	0.050		mg/L			07/19/18 15:23	1
TOC Result 1	**1800**		40		mg/L			07/24/18 23:49	40
TOC Result 2	**1800**		40		mg/L			07/24/18 23:49	40
Total Organic Carbon - Duplicates	**1800**		40		mg/L			07/24/18 23:49	40
Alkalinity, Total	**840**		5.0		mg/L			07/16/18 21:09	1
ortho-Phosphate	**0.18**		0.020		mg/L			07/12/18 14:02	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.5**	**HF**	0.1		SU			07/18/18 08:56	1
Temperature	**20.9**	**HF**	0.001		Degrees C			07/18/18 08:56	1

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

TestAmerica Job ID: 480-138693-1

Client Sample ID: REW-7-20180711
Date Collected: 07/11/18 09:05
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-4
Matrix: Water

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			07/17/18 13:38	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/17/18 13:38	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/17/18 13:38	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/17/18 13:38	1
1,1-Dichloroethane	ND		1.0		ug/L			07/17/18 13:38	1
1,1-Dichloroethene	ND		1.0		ug/L			07/17/18 13:38	1
1,1-Dichloropropene	ND		1.0		ug/L			07/17/18 13:38	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/17/18 13:38	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/17/18 13:38	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,2-Dichloroethane	ND		1.0		ug/L			07/17/18 13:38	1
1,2-Dichloropropane	ND		1.0		ug/L			07/17/18 13:38	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,3-Dichloropropane	ND		1.0		ug/L			07/17/18 13:38	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/17/18 13:38	1
1,4-Dioxane	ND		50		ug/L			07/17/18 13:38	1
2,2-Dichloropropane	ND		1.0		ug/L			07/17/18 13:38	1
2-Butanone (MEK)	ND		10		ug/L			07/17/18 13:38	1
2-Chlorotoluene	ND		1.0		ug/L			07/17/18 13:38	1
2-Hexanone	ND	*	10		ug/L			07/17/18 13:38	1
4-Chlorotoluene	ND		1.0		ug/L			07/17/18 13:38	1
4-Isopropyltoluene	ND		1.0		ug/L			07/17/18 13:38	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/17/18 13:38	1
Acetone	ND		50		ug/L			07/17/18 13:38	1
Benzene	ND		1.0		ug/L			07/17/18 13:38	1
Bromobenzene	ND		1.0		ug/L			07/17/18 13:38	1
Bromoform	ND		1.0		ug/L			07/17/18 13:38	1
Bromomethane	ND		2.0		ug/L			07/17/18 13:38	1
Carbon disulfide	ND		10		ug/L			07/17/18 13:38	1
Carbon tetrachloride	ND		1.0		ug/L			07/17/18 13:38	1
Chlorobenzene	ND		1.0		ug/L			07/17/18 13:38	1
Chlorobromomethane	ND		1.0		ug/L			07/17/18 13:38	1
Chlorodibromomethane	ND		0.50		ug/L			07/17/18 13:38	1
Chloroethane	ND		2.0		ug/L			07/17/18 13:38	1
Chloroform	ND		1.0		ug/L			07/17/18 13:38	1
Chloromethane	ND		2.0		ug/L			07/17/18 13:38	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/17/18 13:38	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/17/18 13:38	1
Dichlorobromomethane	ND		0.50		ug/L			07/17/18 13:38	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/17/18 13:38	1
Ethyl ether	ND		1.0		ug/L			07/17/18 13:38	1
Ethylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
Ethylene Dibromide	ND		1.0		ug/L			07/17/18 13:38	1
Hexachlorobutadiene	ND		0.40		ug/L			07/17/18 13:38	1
Isopropyl ether	ND		10		ug/L			07/17/18 13:38	1

Client Sample ID: REW-7-20180711
Date Collected: 07/11/18 09:05
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-4
Matrix: Water

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			07/17/18 13:38	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/17/18 13:38	1
Methylene Chloride	ND		1.0		ug/L			07/17/18 13:38	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/17/18 13:38	1
Naphthalene	ND		5.0		ug/L			07/17/18 13:38	1
n-Butylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
N-Propylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
o-Xylene	ND		1.0		ug/L			07/17/18 13:38	1
sec-Butylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
Styrene	ND		1.0		ug/L			07/17/18 13:38	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/17/18 13:38	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/17/18 13:38	1
tert-Butylbenzene	ND		1.0		ug/L			07/17/18 13:38	1
Tetrachloroethene	ND		1.0		ug/L			07/17/18 13:38	1
Tetrahydrofuran	ND		10		ug/L			07/17/18 13:38	1
Toluene	ND		1.0		ug/L			07/17/18 13:38	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/17/18 13:38	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/17/18 13:38	1
Trichloroethene	ND		1.0		ug/L			07/17/18 13:38	1
Trichlorofluoromethane	ND		1.0		ug/L			07/17/18 13:38	1
Vinyl chloride	ND		1.0		ug/L			07/17/18 13:38	1
Dibromomethane	ND		1.0		ug/L			07/17/18 13:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*07/17/18 13:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*07/17/18 13:38*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/17/18 13:38*	*1*

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**5.3**		0.050		mg/L		07/14/18 08:00	07/17/18 00:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.9**		0.50		mg/L			07/17/18 21:41	1
Sulfate	**23**		2.0		mg/L			07/17/18 21:41	1
Ammonia	**1.1**		0.20		mg/L		07/12/18 19:06	07/13/18 10:52	1
Nitrate as N	ND	H	0.050		mg/L			07/19/18 15:23	1
TOC Result 1	ND		1.0		mg/L			07/25/18 03:03	1
TOC Result 2	ND		1.0		mg/L			07/25/18 03:03	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/25/18 03:03	1
Alkalinity, Total	**62**		5.0		mg/L			07/16/18 21:14	1
ortho-Phosphate	**0.073**		0.020		mg/L			07/12/18 14:02	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.9**	**HF**	0.1		SU			07/18/18 08:59	1
Temperature	**21.0**	**HF**	0.001		Degrees C			07/18/18 08:59	1

Client Sample ID: TRIP BLANK
Date Collected: 07/11/18 00:00
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-5
Matrix: Water

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			07/17/18 14:07	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/17/18 14:07	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/17/18 14:07	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/17/18 14:07	1
1,1-Dichloroethane	ND		1.0		ug/L			07/17/18 14:07	1
1,1-Dichloroethene	ND		1.0		ug/L			07/17/18 14:07	1
1,1-Dichloropropene	ND		1.0		ug/L			07/17/18 14:07	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/17/18 14:07	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/17/18 14:07	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,2-Dichloroethane	ND		1.0		ug/L			07/17/18 14:07	1
1,2-Dichloropropane	ND		1.0		ug/L			07/17/18 14:07	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,3-Dichloropropane	ND		1.0		ug/L			07/17/18 14:07	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/17/18 14:07	1
1,4-Dioxane	ND		50		ug/L			07/17/18 14:07	1
2,2-Dichloropropane	ND		1.0		ug/L			07/17/18 14:07	1
2-Butanone (MEK)	ND		10		ug/L			07/17/18 14:07	1
2-Chlorotoluene	ND		1.0		ug/L			07/17/18 14:07	1
2-Hexanone	ND	*	10		ug/L			07/17/18 14:07	1
4-Chlorotoluene	ND		1.0		ug/L			07/17/18 14:07	1
4-Isopropyltoluene	ND		1.0		ug/L			07/17/18 14:07	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/17/18 14:07	1
Acetone	ND		50		ug/L			07/17/18 14:07	1
Benzene	ND		1.0		ug/L			07/17/18 14:07	1
Bromobenzene	ND		1.0		ug/L			07/17/18 14:07	1
Bromoform	ND		1.0		ug/L			07/17/18 14:07	1
Bromomethane	ND		2.0		ug/L			07/17/18 14:07	1
Carbon disulfide	ND		10		ug/L			07/17/18 14:07	1
Carbon tetrachloride	ND		1.0		ug/L			07/17/18 14:07	1
Chlorobenzene	ND		1.0		ug/L			07/17/18 14:07	1
Chlorobromomethane	ND		1.0		ug/L			07/17/18 14:07	1
Chlorodibromomethane	ND		0.50		ug/L			07/17/18 14:07	1
Chloroethane	ND		2.0		ug/L			07/17/18 14:07	1
Chloroform	ND		1.0		ug/L			07/17/18 14:07	1
Chloromethane	ND		2.0		ug/L			07/17/18 14:07	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/17/18 14:07	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/17/18 14:07	1
Dichlorobromomethane	ND		0.50		ug/L			07/17/18 14:07	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/17/18 14:07	1
Ethyl ether	ND		1.0		ug/L			07/17/18 14:07	1
Ethylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
Ethylene Dibromide	ND		1.0		ug/L			07/17/18 14:07	1
Hexachlorobutadiene	ND		0.40		ug/L			07/17/18 14:07	1
Isopropyl ether	ND		10		ug/L			07/17/18 14:07	1

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

TestAmerica Job ID: 480-138693-1

Client Sample ID: TRIP BLANK
Date Collected: 07/11/18 00:00
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-5
Matrix: Water

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			07/17/18 14:07	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/17/18 14:07	1
Methylene Chloride	ND		1.0		ug/L			07/17/18 14:07	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/17/18 14:07	1
Naphthalene	ND		5.0		ug/L			07/17/18 14:07	1
n-Butylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
N-Propylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
o-Xylene	ND		1.0		ug/L			07/17/18 14:07	1
sec-Butylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
Styrene	ND		1.0		ug/L			07/17/18 14:07	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/17/18 14:07	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/17/18 14:07	1
tert-Butylbenzene	ND		1.0		ug/L			07/17/18 14:07	1
Tetrachloroethene	ND		1.0		ug/L			07/17/18 14:07	1
Tetrahydrofuran	ND		10		ug/L			07/17/18 14:07	1
Toluene	ND		1.0		ug/L			07/17/18 14:07	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/17/18 14:07	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/17/18 14:07	1
Trichloroethene	ND		1.0		ug/L			07/17/18 14:07	1
Trichlorofluoromethane	ND		1.0		ug/L			07/17/18 14:07	1
Vinyl chloride	ND		1.0		ug/L			07/17/18 14:07	1
Dibromomethane	ND		1.0		ug/L			07/17/18 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/17/18 14:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*07/17/18 14:07*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*07/17/18 14:07*	*1*

Surrogate Summary

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

TestAmerica Job ID: 480-138693-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DCA	BFB
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
480-138693-1	MW-562-20180711	98	94	100
480-138693-2	MW-563-20180711	96	92	99
480-138693-3	REW-6-20180711	100	96	99
480-138693-4	REW-7-20180711	97	94	99
480-138693-5	TRIP BLANK	98	94	99
LCS 480-424542/5	Lab Control Sample	92	85	93
LCS 480-424744/5	Lab Control Sample	96	94	101
LCSD 480-424542/6	Lab Control Sample Dup	93	92	99
LCSD 480-424744/6	Lab Control Sample Dup	97	92	98
MB 480-424542/8	Method Blank	98	94	102
MB 480-424744/8	Method Blank	100	95	103

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

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

Lab Sample ID: MB 480-424542/8
Matrix: Water
Analysis Batch: 424542

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			07/16/18 11:53	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/16/18 11:53	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/16/18 11:53	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/16/18 11:53	1
1,1-Dichloroethane	ND		1.0		ug/L			07/16/18 11:53	1
1,1-Dichloroethene	ND		1.0		ug/L			07/16/18 11:53	1
1,1-Dichloropropene	ND		1.0		ug/L			07/16/18 11:53	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/16/18 11:53	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/16/18 11:53	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,2-Dichloroethane	ND		1.0		ug/L			07/16/18 11:53	1
1,2-Dichloropropane	ND		1.0		ug/L			07/16/18 11:53	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,3-Dichloropropane	ND		1.0		ug/L			07/16/18 11:53	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/16/18 11:53	1
1,4-Dioxane	ND		50		ug/L			07/16/18 11:53	1
2,2-Dichloropropane	ND		1.0		ug/L			07/16/18 11:53	1
2-Butanone (MEK)	ND		10		ug/L			07/16/18 11:53	1
2-Chlorotoluene	ND		1.0		ug/L			07/16/18 11:53	1
2-Hexanone	ND		10		ug/L			07/16/18 11:53	1
4-Chlorotoluene	ND		1.0		ug/L			07/16/18 11:53	1
4-Isopropyltoluene	ND		1.0		ug/L			07/16/18 11:53	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/16/18 11:53	1
Acetone	ND		50		ug/L			07/16/18 11:53	1
Benzene	ND		1.0		ug/L			07/16/18 11:53	1
Bromobenzene	ND		1.0		ug/L			07/16/18 11:53	1
Bromoform	ND		1.0		ug/L			07/16/18 11:53	1
Bromomethane	ND		2.0		ug/L			07/16/18 11:53	1
Carbon disulfide	ND		10		ug/L			07/16/18 11:53	1
Carbon tetrachloride	ND		1.0		ug/L			07/16/18 11:53	1
Chlorobenzene	ND		1.0		ug/L			07/16/18 11:53	1
Chlorobromomethane	ND		1.0		ug/L			07/16/18 11:53	1
Chlorodibromomethane	ND		0.50		ug/L			07/16/18 11:53	1
Chloroethane	ND		2.0		ug/L			07/16/18 11:53	1
Chloroform	ND		1.0		ug/L			07/16/18 11:53	1
Chloromethane	ND		2.0		ug/L			07/16/18 11:53	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/16/18 11:53	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/16/18 11:53	1
Dichlorobromomethane	ND		0.50		ug/L			07/16/18 11:53	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/16/18 11:53	1
Ethyl ether	ND		1.0		ug/L			07/16/18 11:53	1
Ethylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
Ethylene Dibromide	ND		1.0		ug/L			07/16/18 11:53	1
Hexachlorobutadiene	ND		0.40		ug/L			07/16/18 11:53	1

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

Lab Sample ID: MB 480-424542/8
Matrix: Water
Analysis Batch: 424542

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			07/16/18 11:53	1
Isopropylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
Methyl tert-butyl ether	ND		1.0		ug/L			07/16/18 11:53	1
Methylene Chloride	ND		1.0		ug/L			07/16/18 11:53	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/16/18 11:53	1
Naphthalene	ND		5.0		ug/L			07/16/18 11:53	1
n-Butylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
N-Propylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
o-Xylene	ND		1.0		ug/L			07/16/18 11:53	1
sec-Butylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
Styrene	ND		1.0		ug/L			07/16/18 11:53	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/16/18 11:53	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/16/18 11:53	1
tert-Butylbenzene	ND		1.0		ug/L			07/16/18 11:53	1
Tetrachloroethene	ND		1.0		ug/L			07/16/18 11:53	1
Tetrahydrofuran	ND		10		ug/L			07/16/18 11:53	1
Toluene	ND		1.0		ug/L			07/16/18 11:53	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/16/18 11:53	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/16/18 11:53	1
Trichloroethene	ND		1.0		ug/L			07/16/18 11:53	1
Trichlorofluoromethane	ND		1.0		ug/L			07/16/18 11:53	1
Vinyl chloride	ND		1.0		ug/L			07/16/18 11:53	1
Dibromomethane	ND		1.0		ug/L			07/16/18 11:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/16/18 11:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*07/16/18 11:53*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*07/16/18 11:53*	*1*

Lab Sample ID: LCS 480-424542/5
Matrix: Water
Analysis Batch: 424542

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	22.0		ug/L		88	70 - 130
1,1,1-Trichloroethane	25.0	22.1		ug/L		89	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.1		ug/L		97	70 - 130
1,1,2-Trichloroethane	25.0	21.9		ug/L		88	70 - 130
1,1-Dichloroethane	25.0	21.6		ug/L		86	70 - 130
1,1-Dichloroethene	25.0	21.7		ug/L		87	70 - 130
1,1-Dichloropropene	25.0	21.7		ug/L		87	70 - 130
1,2,3-Trichlorobenzene	25.0	22.5		ug/L		90	70 - 130
1,2,3-Trichloropropane	25.0	24.0		ug/L		96	70 - 130
1,2,4-Trichlorobenzene	25.0	22.5		ug/L		90	70 - 130
1,2,4-Trimethylbenzene	25.0	23.6		ug/L		94	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	22.3		ug/L		89	70 - 130
1,2-Dichlorobenzene	25.0	23.0		ug/L		92	70 - 130
1,2-Dichloroethane	25.0	19.8		ug/L		79	70 - 130

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

Lab Sample ID: LCS 480-424542/5
Matrix: Water
Analysis Batch: 424542

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	25.0	20.9		ug/L		84	70 - 130
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	70 - 130
1,3-Dichlorobenzene	25.0	22.1		ug/L		88	70 - 130
1,3-Dichloropropane	25.0	21.2		ug/L		85	70 - 130
1,4-Dichlorobenzene	25.0	22.4		ug/L		90	70 - 130
1,4-Dioxane	500	443		ug/L		89	70 - 130
2,2-Dichloropropane	25.0	23.1		ug/L		92	70 - 130
2-Butanone (MEK)	125	112		ug/L		90	70 - 130
2-Chlorotoluene	25.0	23.5		ug/L		94	70 - 130
2-Hexanone	125	175	*	ug/L		140	70 - 130
4-Chlorotoluene	25.0	22.0		ug/L		88	70 - 130
4-Isopropyltoluene	25.0	24.7		ug/L		99	70 - 130
4-Methyl-2-pentanone (MIBK)	125	117		ug/L		94	70 - 130
Acetone	125	112		ug/L		90	70 - 130
Benzene	25.0	20.4		ug/L		82	70 - 130
Bromobenzene	25.0	22.8		ug/L		91	70 - 130
Bromoform	25.0	22.3		ug/L		89	70 - 130
Bromomethane	25.0	22.9		ug/L		92	70 - 130
Carbon disulfide	25.0	20.7		ug/L		83	70 - 130
Carbon tetrachloride	25.0	21.9		ug/L		88	70 - 130
Chlorobenzene	25.0	21.6		ug/L		86	70 - 130
Chlorobromomethane	25.0	21.1		ug/L		84	70 - 130
Chlorodibromomethane	25.0	21.9		ug/L		87	70 - 130
Chloroethane	25.0	24.2		ug/L		97	70 - 130
Chloroform	25.0	21.0		ug/L		84	70 - 130
Chloromethane	25.0	24.5		ug/L		98	70 - 130
cis-1,2-Dichloroethene	25.0	20.1		ug/L		80	70 - 130
cis-1,3-Dichloropropene	25.0	20.9		ug/L		83	70 - 130
Dichlorobromomethane	25.0	21.5		ug/L		86	70 - 130
Dichlorodifluoromethane	25.0	32.4		ug/L		130	70 - 130
Ethyl ether	25.0	20.9		ug/L		84	70 - 130
Ethylbenzene	25.0	22.6		ug/L		90	70 - 130
Ethylene Dibromide	25.0	21.5		ug/L		86	70 - 130
Hexachlorobutadiene	25.0	23.0		ug/L		92	70 - 130
Isopropyl ether	25.0	25.9		ug/L		104	70 - 130
Isopropylbenzene	25.0	24.5		ug/L		98	70 - 130
Methyl tert-butyl ether	25.0	21.1		ug/L		84	70 - 130
Methylene Chloride	25.0	20.7		ug/L		83	70 - 130
m-Xylene & p-Xylene	25.0	22.6		ug/L		90	70 - 130
Naphthalene	25.0	23.1		ug/L		92	70 - 130
n-Butylbenzene	25.0	25.0		ug/L		100	70 - 130
N-Propylbenzene	25.0	24.7		ug/L		99	70 - 130
o-Xylene	25.0	23.3		ug/L		93	70 - 130
sec-Butylbenzene	25.0	24.8		ug/L		99	70 - 130
Styrene	25.0	22.6		ug/L		90	70 - 130
Tert-amyl methyl ether	25.0	25.4		ug/L		102	70 - 130
Tert-butyl ethyl ether	25.0	24.9		ug/L		100	70 - 130
tert-Butylbenzene	25.0	25.1		ug/L		100	70 - 130

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

Lab Sample ID: LCS 480-424542/5
Matrix: Water
Analysis Batch: 424542

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	25.5		ug/L		102	70 - 130
Tetrahydrofuran	50.0	45.2		ug/L		90	70 - 130
Toluene	25.0	22.3		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	21.3		ug/L		85	70 - 130
trans-1,3-Dichloropropene	25.0	21.0		ug/L		84	70 - 130
Trichloroethene	25.0	21.6		ug/L		86	70 - 130
Trichlorofluoromethane	25.0	25.5		ug/L		102	70 - 130
Vinyl chloride	25.0	25.4		ug/L		101	70 - 130
Dibromomethane	25.0	20.4		ug/L		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 480-424542/6
Matrix: Water
Analysis Batch: 424542

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	23.0		ug/L		92	70 - 130	4	20
1,1,1-Trichloroethane	25.0	23.5		ug/L		94	70 - 130	6	20
1,1,2,2-Tetrachloroethane	25.0	25.0		ug/L		100	70 - 130	4	20
1,1,2-Trichloroethane	25.0	22.9		ug/L		92	70 - 130	4	20
1,1-Dichloroethane	25.0	22.8		ug/L		91	70 - 130	6	20
1,1-Dichloroethene	25.0	23.1		ug/L		93	70 - 130	6	20
1,1-Dichloropropene	25.0	23.3		ug/L		93	70 - 130	7	20
1,2,3-Trichlorobenzene	25.0	22.9		ug/L		92	70 - 130	2	20
1,2,3-Trichloropropane	25.0	24.4		ug/L		97	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	23.0		ug/L		92	70 - 130	2	20
1,2,4-Trimethylbenzene	25.0	24.9		ug/L		100	70 - 130	6	20
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		92	70 - 130	3	20
1,2-Dichlorobenzene	25.0	24.3		ug/L		97	70 - 130	5	20
1,2-Dichloroethane	25.0	20.8		ug/L		83	70 - 130	5	20
1,2-Dichloropropane	25.0	22.5		ug/L		90	70 - 130	7	20
1,3,5-Trimethylbenzene	25.0	25.2		ug/L		101	70 - 130	4	20
1,3-Dichlorobenzene	25.0	24.0		ug/L		96	70 - 130	8	20
1,3-Dichloropropane	25.0	23.0		ug/L		92	70 - 130	8	20
1,4-Dichlorobenzene	25.0	24.2		ug/L		97	70 - 130	8	20
1,4-Dioxane	500	447		ug/L		89	70 - 130	1	20
2,2-Dichloropropane	25.0	24.5		ug/L		98	70 - 130	6	20
2-Butanone (MEK)	125	113		ug/L		91	70 - 130	1	20
2-Chlorotoluene	25.0	27.8		ug/L		111	70 - 130	17	20
2-Hexanone	125	176	*	ug/L		141	70 - 130	0	20
4-Chlorotoluene	25.0	24.3		ug/L		97	70 - 130	10	20
4-Isopropyltoluene	25.0	26.1		ug/L		105	70 - 130	5	20
4-Methyl-2-pentanone (MIBK)	125	116		ug/L		93	70 - 130	1	20
Acetone	125	112		ug/L		90	70 - 130	0	20

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

Lab Sample ID: LCSD 480-424542/6
Matrix: Water
Analysis Batch: 424542

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	21.9		ug/L		87	70 - 130	7	20
Bromobenzene	25.0	24.6		ug/L		99	70 - 130	8	20
Bromoform	25.0	23.7		ug/L		95	70 - 130	6	20
Bromomethane	25.0	24.2		ug/L		97	70 - 130	5	20
Carbon disulfide	25.0	22.4		ug/L		90	70 - 130	8	20
Carbon tetrachloride	25.0	23.6		ug/L		95	70 - 130	8	20
Chlorobenzene	25.0	23.3		ug/L		93	70 - 130	8	20
Chlorobromomethane	25.0	21.3		ug/L		85	70 - 130	1	20
Chlorodibromomethane	25.0	23.2		ug/L		93	70 - 130	6	20
Chloroethane	25.0	25.8		ug/L		103	70 - 130	7	20
Chloroform	25.0	21.9		ug/L		88	70 - 130	4	20
Chloromethane	25.0	25.7		ug/L		103	70 - 130	5	20
cis-1,2-Dichloroethene	25.0	21.2		ug/L		85	70 - 130	5	20
cis-1,3-Dichloropropene	25.0	22.8		ug/L		91	70 - 130	9	20
Dichlorobromomethane	25.0	23.1		ug/L		92	70 - 130	7	20
Dichlorodifluoromethane	25.0	33.7	*	ug/L		135	70 - 130	4	20
Ethyl ether	25.0	21.8		ug/L		87	70 - 130	4	20
Ethylbenzene	25.0	24.5		ug/L		98	70 - 130	8	20
Ethylene Dibromide	25.0	23.4		ug/L		93	70 - 130	8	20
Hexachlorobutadiene	25.0	24.1		ug/L		96	70 - 130	5	20
Isopropyl ether	25.0	27.0		ug/L		108	70 - 130	4	20
Isopropylbenzene	25.0	26.1		ug/L		104	70 - 130	6	20
Methyl tert-butyl ether	25.0	21.4		ug/L		85	70 - 130	1	20
Methylene Chloride	25.0	21.9		ug/L		88	70 - 130	5	20
m-Xylene & p-Xylene	25.0	24.4		ug/L		98	70 - 130	8	20
Naphthalene	25.0	23.2		ug/L		93	70 - 130	1	20
n-Butylbenzene	25.0	26.8		ug/L		107	70 - 130	7	20
N-Propylbenzene	25.0	26.6		ug/L		107	70 - 130	8	20
o-Xylene	25.0	24.6		ug/L		98	70 - 130	5	20
sec-Butylbenzene	25.0	26.1		ug/L		104	70 - 130	5	20
Styrene	25.0	24.6		ug/L		98	70 - 130	9	20
Tert-amyl methyl ether	25.0	26.1		ug/L		104	70 - 130	3	20
Tert-butyl ethyl ether	25.0	25.4		ug/L		102	70 - 130	2	20
tert-Butylbenzene	25.0	25.2		ug/L		101	70 - 130	0	20
Tetrachloroethene	25.0	28.1		ug/L		112	70 - 130	10	20
Tetrahydrofuran	50.0	46.6		ug/L		93	70 - 130	3	20
Toluene	25.0	23.8		ug/L		95	70 - 130	6	20
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130	5	20
trans-1,3-Dichloropropene	25.0	22.6		ug/L		90	70 - 130	7	20
Trichloroethene	25.0	23.1		ug/L		93	70 - 130	7	20
Trichlorofluoromethane	25.0	26.9		ug/L		108	70 - 130	6	20
Vinyl chloride	25.0	27.0		ug/L		108	70 - 130	6	20
Dibromomethane	25.0	21.4		ug/L		86	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: MB 480-424744/8
Matrix: Water
Analysis Batch: 424744

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			07/17/18 12:01	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/17/18 12:01	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			07/17/18 12:01	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/17/18 12:01	1
1,1-Dichloroethane	ND		1.0		ug/L			07/17/18 12:01	1
1,1-Dichloroethene	ND		1.0		ug/L			07/17/18 12:01	1
1,1-Dichloropropene	ND		1.0		ug/L			07/17/18 12:01	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,2,3-Trichloropropane	ND		1.0		ug/L			07/17/18 12:01	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/17/18 12:01	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,2-Dichloroethane	ND		1.0		ug/L			07/17/18 12:01	1
1,2-Dichloropropane	ND		1.0		ug/L			07/17/18 12:01	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,3-Dichloropropane	ND		1.0		ug/L			07/17/18 12:01	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/17/18 12:01	1
1,4-Dioxane	ND		50		ug/L			07/17/18 12:01	1
2,2-Dichloropropane	ND		1.0		ug/L			07/17/18 12:01	1
2-Butanone (MEK)	ND		10		ug/L			07/17/18 12:01	1
2-Chlorotoluene	ND		1.0		ug/L			07/17/18 12:01	1
2-Hexanone	ND		10		ug/L			07/17/18 12:01	1
4-Chlorotoluene	ND		1.0		ug/L			07/17/18 12:01	1
4-Isopropyltoluene	ND		1.0		ug/L			07/17/18 12:01	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			07/17/18 12:01	1
Acetone	ND		50		ug/L			07/17/18 12:01	1
Benzene	ND		1.0		ug/L			07/17/18 12:01	1
Bromobenzene	ND		1.0		ug/L			07/17/18 12:01	1
Bromoform	ND		1.0		ug/L			07/17/18 12:01	1
Bromomethane	ND		2.0		ug/L			07/17/18 12:01	1
Carbon disulfide	ND		10		ug/L			07/17/18 12:01	1
Carbon tetrachloride	ND		1.0		ug/L			07/17/18 12:01	1
Chlorobenzene	ND		1.0		ug/L			07/17/18 12:01	1
Chlorobromomethane	ND		1.0		ug/L			07/17/18 12:01	1
Chlorodibromomethane	ND		0.50		ug/L			07/17/18 12:01	1
Chloroethane	ND		2.0		ug/L			07/17/18 12:01	1
Chloroform	ND		1.0		ug/L			07/17/18 12:01	1
Chloromethane	ND		2.0		ug/L			07/17/18 12:01	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/17/18 12:01	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			07/17/18 12:01	1
Dichlorobromomethane	ND		0.50		ug/L			07/17/18 12:01	1
Dichlorodifluoromethane	ND		1.0		ug/L			07/17/18 12:01	1
Ethyl ether	ND		1.0		ug/L			07/17/18 12:01	1
Ethylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
Ethylene Dibromide	ND		1.0		ug/L			07/17/18 12:01	1
Hexachlorobutadiene	ND		0.40		ug/L			07/17/18 12:01	1
Isopropyl ether	ND		10		ug/L			07/17/18 12:01	1
Isopropylbenzene	ND		1.0		ug/L			07/17/18 12:01	1

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

Lab Sample ID: MB 480-424744/8
Matrix: Water
Analysis Batch: 424744

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			07/17/18 12:01	1
Methylene Chloride	ND		1.0		ug/L			07/17/18 12:01	1
m-Xylene & p-Xylene	ND		2.0		ug/L			07/17/18 12:01	1
Naphthalene	ND		5.0		ug/L			07/17/18 12:01	1
n-Butylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
N-Propylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
o-Xylene	ND		1.0		ug/L			07/17/18 12:01	1
sec-Butylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
Styrene	ND		1.0		ug/L			07/17/18 12:01	1
Tert-amyl methyl ether	ND		5.0		ug/L			07/17/18 12:01	1
Tert-butyl ethyl ether	ND		5.0		ug/L			07/17/18 12:01	1
tert-Butylbenzene	ND		1.0		ug/L			07/17/18 12:01	1
Tetrachloroethene	ND		1.0		ug/L			07/17/18 12:01	1
Tetrahydrofuran	ND		10		ug/L			07/17/18 12:01	1
Toluene	ND		1.0		ug/L			07/17/18 12:01	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/17/18 12:01	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			07/17/18 12:01	1
Trichloroethene	ND		1.0		ug/L			07/17/18 12:01	1
Trichlorofluoromethane	ND		1.0		ug/L			07/17/18 12:01	1
Vinyl chloride	ND		1.0		ug/L			07/17/18 12:01	1
Dibromomethane	ND		1.0		ug/L			07/17/18 12:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*07/17/18 12:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 130*		*07/17/18 12:01*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*07/17/18 12:01*	*1*

Lab Sample ID: LCS 480-424744/5
Matrix: Water
Analysis Batch: 424744

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.4		ug/L		98	70 - 130
1,1,1-Trichloroethane	25.0	24.3		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.3		ug/L		105	70 - 130
1,1,2-Trichloroethane	25.0	24.7		ug/L		99	70 - 130
1,1-Dichloroethane	25.0	23.9		ug/L		95	70 - 130
1,1-Dichloroethene	25.0	23.9		ug/L		96	70 - 130
1,1-Dichloropropene	25.0	24.1		ug/L		97	70 - 130
1,2,3-Trichlorobenzene	25.0	23.4		ug/L		94	70 - 130
1,2,3-Trichloropropane	25.0	26.1		ug/L		104	70 - 130
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		93	70 - 130
1,2,4-Trimethylbenzene	25.0	25.7		ug/L		103	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	23.8		ug/L		95	70 - 130
1,2-Dichlorobenzene	25.0	25.1		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	21.8		ug/L		87	70 - 130
1,2-Dichloropropane	25.0	23.5		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	25.0	26.0		ug/L		104	70 - 130

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

Lab Sample ID: LCS 480-424744/5
Matrix: Water
Analysis Batch: 424744

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	24.8		ug/L		99	70 - 130
1,3-Dichloropropane	25.0	24.6		ug/L		98	70 - 130
1,4-Dichlorobenzene	25.0	25.2		ug/L		101	70 - 130
1,4-Dioxane	500	507		ug/L		101	70 - 130
2,2-Dichloropropane	25.0	25.4		ug/L		101	70 - 130
2-Butanone (MEK)	125	122		ug/L		98	70 - 130
2-Chlorotoluene	25.0	24.3		ug/L		97	70 - 130
2-Hexanone	125	194	*	ug/L		156	70 - 130
4-Chlorotoluene	25.0	28.2		ug/L		113	70 - 130
4-Isopropyltoluene	25.0	26.7		ug/L		107	70 - 130
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		105	70 - 130
Acetone	125	117		ug/L		93	70 - 130
Benzene	25.0	22.7		ug/L		91	70 - 130
Bromobenzene	25.0	25.0		ug/L		100	70 - 130
Bromoform	25.0	25.0		ug/L		100	70 - 130
Bromomethane	25.0	23.3		ug/L		93	70 - 130
Carbon disulfide	25.0	23.4		ug/L		94	70 - 130
Carbon tetrachloride	25.0	24.2		ug/L		97	70 - 130
Chlorobenzene	25.0	24.9		ug/L		100	70 - 130
Chlorobromomethane	25.0	23.1		ug/L		92	70 - 130
Chlorodibromomethane	25.0	24.5		ug/L		98	70 - 130
Chloroethane	25.0	24.4		ug/L		97	70 - 130
Chloroform	25.0	23.1		ug/L		92	70 - 130
Chloromethane	25.0	24.4		ug/L		98	70 - 130
cis-1,2-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
cis-1,3-Dichloropropene	25.0	23.4		ug/L		94	70 - 130
Dichlorobromomethane	25.0	23.8		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	30.0		ug/L		120	70 - 130
Ethyl ether	25.0	23.0		ug/L		92	70 - 130
Ethylbenzene	25.0	25.9		ug/L		104	70 - 130
Ethylene Dibromide	25.0	24.9		ug/L		99	70 - 130
Hexachlorobutadiene	25.0	24.0		ug/L		96	70 - 130
Isopropyl ether	25.0	27.2		ug/L		109	70 - 130
Isopropylbenzene	25.0	26.6		ug/L		106	70 - 130
Methyl tert-butyl ether	25.0	22.9		ug/L		92	70 - 130
Methylene Chloride	25.0	23.1		ug/L		92	70 - 130
m-Xylene & p-Xylene	25.0	25.6		ug/L		102	70 - 130
Naphthalene	25.0	23.9		ug/L		96	70 - 130
n-Butylbenzene	25.0	27.1		ug/L		108	70 - 130
N-Propylbenzene	25.0	27.3		ug/L		109	70 - 130
o-Xylene	25.0	26.1		ug/L		104	70 - 130
sec-Butylbenzene	25.0	26.7		ug/L		107	70 - 130
Styrene	25.0	26.4		ug/L		106	70 - 130
Tert-amyl methyl ether	25.0	25.2		ug/L		101	70 - 130
Tert-butyl ethyl ether	25.0	25.6		ug/L		102	70 - 130
tert-Butylbenzene	25.0	26.2		ug/L		105	70 - 130
Tetrachloroethene	25.0	29.2		ug/L		117	70 - 130
Tetrahydrofuran	50.0	50.9		ug/L		102	70 - 130

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

Lab Sample ID: LCS 480-424744/5
Matrix: Water
Analysis Batch: 424744

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	25.0	25.2		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	23.7		ug/L		95	70 - 130
trans-1,3-Dichloropropene	25.0	24.4		ug/L		97	70 - 130
Trichloroethene	25.0	24.1		ug/L		96	70 - 130
Trichlorofluoromethane	25.0	25.5		ug/L		102	70 - 130
Vinyl chloride	25.0	25.3		ug/L		101	70 - 130
Dibromomethane	25.0	22.4		ug/L		90	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 480-424744/6
Matrix: Water
Analysis Batch: 424744

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	25.2		ug/L		101	70 - 130	3	20
1,1,1-Trichloroethane	25.0	25.7		ug/L		103	70 - 130	5	20
1,1,2,2-Tetrachloroethane	25.0	28.0		ug/L		112	70 - 130	6	20
1,1,2-Trichloroethane	25.0	25.7		ug/L		103	70 - 130	4	20
1,1-Dichloroethane	25.0	24.8		ug/L		99	70 - 130	4	20
1,1-Dichloroethene	25.0	25.8		ug/L		103	70 - 130	7	20
1,1-Dichloropropene	25.0	25.0		ug/L		100	70 - 130	4	20
1,2,3-Trichlorobenzene	25.0	25.3		ug/L		101	70 - 130	8	20
1,2,3-Trichloropropane	25.0	28.2		ug/L		113	70 - 130	8	20
1,2,4-Trichlorobenzene	25.0	25.4		ug/L		102	70 - 130	8	20
1,2,4-Trimethylbenzene	25.0	27.7		ug/L		111	70 - 130	7	20
1,2-Dibromo-3-Chloropropane	25.0	25.4		ug/L		102	70 - 130	7	20
1,2-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	4	20
1,2-Dichloroethane	25.0	22.6		ug/L		90	70 - 130	3	20
1,2-Dichloropropane	25.0	24.4		ug/L		97	70 - 130	3	20
1,3,5-Trimethylbenzene	25.0	28.2		ug/L		113	70 - 130	8	20
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	5	20
1,3-Dichloropropane	25.0	25.1		ug/L		100	70 - 130	2	20
1,4-Dichlorobenzene	25.0	26.2		ug/L		105	70 - 130	4	20
1,4-Dioxane	500	598		ug/L		120	70 - 130	17	20
2,2-Dichloropropane	25.0	26.9		ug/L		108	70 - 130	6	20
2-Butanone (MEK)	125	129		ug/L		103	70 - 130	5	20
2-Chlorotoluene	25.0	25.3		ug/L		101	70 - 130	4	20
2-Hexanone	125	201	*	ug/L		161	70 - 130	3	20
4-Chlorotoluene	25.0	26.3		ug/L		105	70 - 130	7	20
4-Isopropyltoluene	25.0	28.9		ug/L		116	70 - 130	8	20
4-Methyl-2-pentanone (MIBK)	125	136		ug/L		109	70 - 130	4	20
Acetone	125	122		ug/L		98	70 - 130	5	20
Benzene	25.0	23.6		ug/L		95	70 - 130	4	20
Bromobenzene	25.0	26.5		ug/L		106	70 - 130	6	20

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

Lab Sample ID: LCSD 480-424744/6
Matrix: Water
Analysis Batch: 424744

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	25.7		ug/L		103	70 - 130	3	20
Bromomethane			25.0	24.8		ug/L		99	70 - 130	6	20
Carbon disulfide			25.0	24.9		ug/L		100	70 - 130	6	20
Carbon tetrachloride			25.0	25.7		ug/L		103	70 - 130	6	20
Chlorobenzene			25.0	25.5		ug/L		102	70 - 130	2	20
Chlorobromomethane			25.0	23.4		ug/L		94	70 - 130	1	20
Chlorodibromomethane			25.0	25.2		ug/L		101	70 - 130	3	20
Chloroethane			25.0	26.5		ug/L		106	70 - 130	8	20
Chloroform			25.0	24.0		ug/L		96	70 - 130	4	20
Chloromethane			25.0	25.7		ug/L		103	70 - 130	5	20
cis-1,2-Dichloroethene			25.0	23.4		ug/L		93	70 - 130	4	20
cis-1,3-Dichloropropene			25.0	24.2		ug/L		97	70 - 130	3	20
Dichlorobromomethane			25.0	24.5		ug/L		98	70 - 130	3	20
Dichlorodifluoromethane			25.0	31.2		ug/L		125	70 - 130	4	20
Ethyl ether			25.0	24.0		ug/L		96	70 - 130	4	20
Ethylbenzene			25.0	27.1		ug/L		108	70 - 130	4	20
Ethylene Dibromide			25.0	25.2		ug/L		101	70 - 130	1	20
Hexachlorobutadiene			25.0	26.7		ug/L		107	70 - 130	11	20
Isopropyl ether			25.0	28.2		ug/L		113	70 - 130	4	20
Isopropylbenzene			25.0	28.7		ug/L		115	70 - 130	8	20
Methyl tert-butyl ether			25.0	23.7		ug/L		95	70 - 130	3	20
Methylene Chloride			25.0	23.9		ug/L		96	70 - 130	4	20
m-Xylene & p-Xylene			25.0	26.9		ug/L		108	70 - 130	5	20
Naphthalene			25.0	25.9		ug/L		104	70 - 130	8	20
n-Butylbenzene			25.0	29.4		ug/L		118	70 - 130	8	20
N-Propylbenzene			25.0	29.1		ug/L		116	70 - 130	6	20
o-Xylene			25.0	27.3		ug/L		109	70 - 130	5	20
sec-Butylbenzene			25.0	28.8		ug/L		115	70 - 130	7	20
Styrene			25.0	26.9		ug/L		108	70 - 130	2	20
Tert-amyl methyl ether			25.0	27.4		ug/L		109	70 - 130	8	20
Tert-butyl ethyl ether			25.0	26.5		ug/L		106	70 - 130	4	20
tert-Butylbenzene			25.0	28.2		ug/L		113	70 - 130	8	20
Tetrachloroethene			25.0	31.3		ug/L		125	70 - 130	7	20
Tetrahydrofuran			50.0	52.5		ug/L		105	70 - 130	3	20
Toluene			25.0	26.4		ug/L		106	70 - 130	5	20
trans-1,2-Dichloroethene			25.0	24.9		ug/L		99	70 - 130	5	20
trans-1,3-Dichloropropene			25.0	24.7		ug/L		99	70 - 130	2	20
Trichloroethene			25.0	25.5		ug/L		102	70 - 130	6	20
Trichlorofluoromethane			25.0	27.0		ug/L		108	70 - 130	6	20
Vinyl chloride			25.0	27.0		ug/L		108	70 - 130	6	20
Dibromomethane			25.0	23.3		ug/L		93	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*

Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-424410/1-A
Matrix: Water
Analysis Batch: 424774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424410

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		07/14/18 08:00	07/16/18 23:57	1

Lab Sample ID: LCS 480-424410/2-A
Matrix: Water
Analysis Batch: 424774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424410

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			10.0	9.57		mg/L		96	80 - 120		

Lab Sample ID: LCSD 480-424410/25-A
Matrix: Water
Analysis Batch: 424774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424410

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron			10.0	9.16		mg/L		92	80 - 120	4	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-424846/28
Matrix: Water
Analysis Batch: 424846

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			07/17/18 19:06	1
Sulfate	ND		2.0		mg/L			07/17/18 19:06	1

Lab Sample ID: LCS 480-424846/27
Matrix: Water
Analysis Batch: 424846

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	51.7		mg/L		103	90 - 110		
Sulfate			50.0	48.9		mg/L		98	90 - 110		

Lab Sample ID: 480-138693-4 MS
Matrix: Water
Analysis Batch: 424846

Client Sample ID: REW-7-20180711
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	7.9		50.0	59.6		mg/L		103	81 - 120		
Sulfate	23		50.0	72.2		mg/L		98	80 - 120		

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-424254/1-A
Matrix: Water
Analysis Batch: 424364

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424254

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20		mg/L		07/12/18 19:06	07/13/18 10:35	1

Lab Sample ID: LCS 480-424254/2-A
Matrix: Water
Analysis Batch: 424364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424254

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.984		mg/L		98	90 - 110

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

Lab Sample ID: MB 480-425344/4
Matrix: Water
Analysis Batch: 425344

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			07/17/18 21:51	1
TOC Result 2	ND		1.0		mg/L			07/17/18 21:51	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/17/18 21:51	1

Lab Sample ID: MB 480-425344/52
Matrix: Water
Analysis Batch: 425344

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			07/18/18 20:09	1
TOC Result 2	ND		1.0		mg/L			07/18/18 20:09	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/18/18 20:09	1

Lab Sample ID: LCS 480-425344/5
Matrix: Water
Analysis Batch: 425344

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	58.1		mg/L		97	90 - 110
TOC Result 2	60.0	58.1		mg/L		97	90 - 110
Total Organic Carbon - Duplicates	60.0	58.1		mg/L		97	90 - 110

Lab Sample ID: LCS 480-425344/53
Matrix: Water
Analysis Batch: 425344

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	60.0	57.4		mg/L		96	90 - 110
TOC Result 2	60.0	57.5		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	60.0	57.4		mg/L		96	90 - 110

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

Lab Sample ID: MB 480-425698/4
Matrix: Water
Analysis Batch: 425698

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			07/19/18 20:03	1
TOC Result 2	ND		1.0		mg/L			07/19/18 20:03	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/19/18 20:03	1

Lab Sample ID: MB 480-425698/52
Matrix: Water
Analysis Batch: 425698

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			07/20/18 18:18	1
TOC Result 2	ND		1.0		mg/L			07/20/18 18:18	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/20/18 18:18	1

Lab Sample ID: LCS 480-425698/5
Matrix: Water
Analysis Batch: 425698

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC Result 1	60.0	57.4		mg/L		96	90 - 110
TOC Result 2	60.0	57.4		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	60.0	57.4		mg/L		96	90 - 110

Lab Sample ID: LCS 480-425698/53
Matrix: Water
Analysis Batch: 425698

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	56.8		mg/L		95	90 - 110
TOC Result 2	60.0	57.3		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	60.0	57.1		mg/L		95	90 - 110

Lab Sample ID: MB 480-426555/4
Matrix: Water
Analysis Batch: 426555

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			07/24/18 19:40	1
TOC Result 2	ND		1.0		mg/L			07/24/18 19:40	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			07/24/18 19:40	1

Lab Sample ID: LCS 480-426555/5
Matrix: Water
Analysis Batch: 426555

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	56.7		mg/L		94	90 - 110
TOC Result 2	60.0	57.9		mg/L		97	90 - 110

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

Lab Sample ID: LCS 480-426555/5
Matrix: Water
Analysis Batch: 426555

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	57.3		mg/L		96	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-424940/30
Matrix: Water
Analysis Batch: 424940

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			07/16/18 19:24	1

Lab Sample ID: LCS 480-424940/31
Matrix: Water
Analysis Batch: 424940

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	93.7		mg/L		94	90 - 110

Method: SM 4500 P E - Orthophosphate

Lab Sample ID: MB 480-424204/3
Matrix: Water
Analysis Batch: 424204

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			07/12/18 14:02	1

Lab Sample ID: LCS 480-424204/4
Matrix: Water
Analysis Batch: 424204

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	0.216		mg/L		108	90 - 110

Lab Sample ID: 480-138693-3 MS
Matrix: Water
Analysis Batch: 424204

Client Sample ID: REW-6-20180711
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
ortho-Phosphate	0.18		1.00	1.20		mg/L		102	49 - 138

Lab Sample ID: 480-138693-3 MSD
Matrix: Water
Analysis Batch: 424204

Client Sample ID: REW-6-20180711
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	0.18		1.00	1.20		mg/L		102	49 - 138	0	20

GC/MS VOA

Analysis Batch: 424542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	8260C	
480-138693-2	MW-563-20180711	Total/NA	Water	8260C	
MB 480-424542/8	Method Blank	Total/NA	Water	8260C	
LCS 480-424542/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-424542/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 424744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-3	REW-6-20180711	Total/NA	Water	8260C	
480-138693-4	REW-7-20180711	Total/NA	Water	8260C	
480-138693-5	TRIP BLANK	Total/NA	Water	8260C	
MB 480-424744/8	Method Blank	Total/NA	Water	8260C	
LCS 480-424744/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-424744/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Metals

Prep Batch: 424410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	3005A	
480-138693-2	MW-563-20180711	Total/NA	Water	3005A	
480-138693-3	REW-6-20180711	Total/NA	Water	3005A	
480-138693-4	REW-7-20180711	Total/NA	Water	3005A	
MB 480-424410/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-424410/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-424410/25-A	Lab Control Sample Dup	Total/NA	Water	3005A	

Analysis Batch: 424774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	6010	424410
480-138693-2	MW-563-20180711	Total/NA	Water	6010	424410
480-138693-3	REW-6-20180711	Total/NA	Water	6010	424410
480-138693-4	REW-7-20180711	Total/NA	Water	6010	424410
MB 480-424410/1-A	Method Blank	Total/NA	Water	6010	424410
LCS 480-424410/2-A	Lab Control Sample	Total/NA	Water	6010	424410
LCSD 480-424410/25-A	Lab Control Sample Dup	Total/NA	Water	6010	424410

General Chemistry

Analysis Batch: 424204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	SM 4500 P E	
480-138693-2	MW-563-20180711	Total/NA	Water	SM 4500 P E	
480-138693-3	REW-6-20180711	Total/NA	Water	SM 4500 P E	
480-138693-4	REW-7-20180711	Total/NA	Water	SM 4500 P E	
MB 480-424204/3	Method Blank	Total/NA	Water	SM 4500 P E	
LCS 480-424204/4	Lab Control Sample	Total/NA	Water	SM 4500 P E	
480-138693-3 MS	REW-6-20180711	Total/NA	Water	SM 4500 P E	
480-138693-3 MSD	REW-6-20180711	Total/NA	Water	SM 4500 P E	

General Chemistry (Continued)

Prep Batch: 424254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	Distill/Ammonia	
480-138693-2	MW-563-20180711	Total/NA	Water	Distill/Ammonia	
480-138693-3	REW-6-20180711	Total/NA	Water	Distill/Ammonia	
480-138693-4	REW-7-20180711	Total/NA	Water	Distill/Ammonia	
MB 480-424254/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 480-424254/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 424364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	350.1	424254
480-138693-2	MW-563-20180711	Total/NA	Water	350.1	424254
480-138693-3	REW-6-20180711	Total/NA	Water	350.1	424254
480-138693-4	REW-7-20180711	Total/NA	Water	350.1	424254
MB 480-424254/1-A	Method Blank	Total/NA	Water	350.1	424254
LCS 480-424254/2-A	Lab Control Sample	Total/NA	Water	350.1	424254

Analysis Batch: 424846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	300.0	
480-138693-2	MW-563-20180711	Total/NA	Water	300.0	
480-138693-3	REW-6-20180711	Total/NA	Water	300.0	
480-138693-4	REW-7-20180711	Total/NA	Water	300.0	
MB 480-424846/28	Method Blank	Total/NA	Water	300.0	
LCS 480-424846/27	Lab Control Sample	Total/NA	Water	300.0	
480-138693-4 MS	REW-7-20180711	Total/NA	Water	300.0	

Analysis Batch: 424940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	SM 2320B	
480-138693-2	MW-563-20180711	Total/NA	Water	SM 2320B	
480-138693-3	REW-6-20180711	Total/NA	Water	SM 2320B	
480-138693-4	REW-7-20180711	Total/NA	Water	SM 2320B	
MB 480-424940/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-424940/31	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 425037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	9040C	
480-138693-2	MW-563-20180711	Total/NA	Water	9040C	
480-138693-3	REW-6-20180711	Total/NA	Water	9040C	
480-138693-4	REW-7-20180711	Total/NA	Water	9040C	
LCS 480-425037/1	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 425148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-425148/45	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 425344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-2	MW-563-20180711	Total/NA	Water	9060A	
MB 480-425344/4	Method Blank	Total/NA	Water	9060A	

General Chemistry (Continued)

Analysis Batch: 425344 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-425344/52	Method Blank	Total/NA	Water	9060A	
LCS 480-425344/5	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-425344/53	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 425382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	353.2	
480-138693-2	MW-563-20180711	Total/NA	Water	353.2	
480-138693-3	REW-6-20180711	Total/NA	Water	353.2	
480-138693-4	REW-7-20180711	Total/NA	Water	353.2	

Analysis Batch: 425698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-1	MW-562-20180711	Total/NA	Water	9060A	
MB 480-425698/4	Method Blank	Total/NA	Water	9060A	
MB 480-425698/52	Method Blank	Total/NA	Water	9060A	
LCS 480-425698/5	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-425698/53	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 426555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-138693-3	REW-6-20180711	Total/NA	Water	9060A	
480-138693-4	REW-7-20180711	Total/NA	Water	9060A	
MB 480-426555/4	Method Blank	Total/NA	Water	9060A	
LCS 480-426555/5	Lab Control Sample	Total/NA	Water	9060A	

Client Sample ID: MW-562-20180711

Date Collected: 07/11/18 10:55
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	424542	07/16/18 12:34	NMC	TAL BUF
Total/NA	Prep	3005A			424410	07/14/18 08:00	KMP	TAL BUF
Total/NA	Analysis	6010		1	424774	07/17/18 00:05	S1P	TAL BUF
Total/NA	Analysis	300.0		2	424846	07/17/18 21:16	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424254	07/12/18 19:06	SMH	TAL BUF
Total/NA	Analysis	350.1		1	424364	07/13/18 10:49	A1A	TAL BUF
Total/NA	Analysis	353.2		1	425382	07/19/18 15:23	JJP	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:50	JAH	TAL BUF
Total/NA	Analysis	9060A		1	425698	07/20/18 00:12	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424940	07/16/18 20:56	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424204	07/12/18 14:02	AED	TAL BUF

Client Sample ID: MW-563-20180711

Date Collected: 07/11/18 10:00
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	424542	07/16/18 13:02	NMC	TAL BUF
Total/NA	Prep	3005A			424410	07/14/18 08:00	KMP	TAL BUF
Total/NA	Analysis	6010		1	424774	07/17/18 00:08	S1P	TAL BUF
Total/NA	Analysis	300.0		1	424846	07/17/18 21:25	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424254	07/12/18 19:06	SMH	TAL BUF
Total/NA	Analysis	350.1		1	424364	07/13/18 10:50	A1A	TAL BUF
Total/NA	Analysis	353.2		1	425382	07/19/18 15:23	JJP	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:53	JAH	TAL BUF
Total/NA	Analysis	9060A		1	425344	07/19/18 05:28	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424940	07/16/18 21:00	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424204	07/12/18 14:02	AED	TAL BUF

Client Sample ID: REW-6-20180711

Date Collected: 07/11/18 08:10
Date Received: 07/12/18 01:15

Lab Sample ID: 480-138693-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	424744	07/17/18 13:09	NMC	TAL BUF
Total/NA	Prep	3005A			424410	07/14/18 08:00	KMP	TAL BUF
Total/NA	Analysis	6010		1	424774	07/17/18 00:12	S1P	TAL BUF
Total/NA	Analysis	300.0		10	424846	07/17/18 21:33	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424254	07/12/18 19:06	SMH	TAL BUF
Total/NA	Analysis	350.1		1	424364	07/13/18 10:51	A1A	TAL BUF
Total/NA	Analysis	353.2		1	425382	07/19/18 15:23	JJP	TAL BUF

Lab Chronicle

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

TestAmerica Job ID: 480-138693-1

Client Sample ID: REW-6-20180711

Lab Sample ID: 480-138693-3

Date Collected: 07/11/18 08:10

Matrix: Water

Date Received: 07/12/18 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040C		1	425037	07/18/18 08:56	JAH	TAL BUF
Total/NA	Analysis	9060A		40	426555	07/24/18 23:49	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424940	07/16/18 21:09	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424204	07/12/18 14:02	AED	TAL BUF

Client Sample ID: REW-7-20180711

Lab Sample ID: 480-138693-4

Date Collected: 07/11/18 09:05

Matrix: Water

Date Received: 07/12/18 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	424744	07/17/18 13:38	NMC	TAL BUF
Total/NA	Prep	3005A			424410	07/14/18 08:00	KMP	TAL BUF
Total/NA	Analysis	6010		1	424774	07/17/18 00:16	S1P	TAL BUF
Total/NA	Analysis	300.0		1	424846	07/17/18 21:41	DMR	TAL BUF
Total/NA	Prep	Distill/Ammonia			424254	07/12/18 19:06	SMH	TAL BUF
Total/NA	Analysis	350.1		1	424364	07/13/18 10:52	A1A	TAL BUF
Total/NA	Analysis	353.2		1	425382	07/19/18 15:23	JJP	TAL BUF
Total/NA	Analysis	9040C		1	425037	07/18/18 08:59	JAH	TAL BUF
Total/NA	Analysis	9060A		1	426555	07/25/18 03:03	SMH	TAL BUF
Total/NA	Analysis	SM 2320B		1	424940	07/16/18 21:14	JAH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	424204	07/12/18 14:02	AED	TAL BUF

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-138693-5

Date Collected: 07/11/18 00:00

Matrix: Water

Date Received: 07/12/18 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	424744	07/17/18 14:07	NMC	TAL BUF

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 480-138693-1

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	07-06-19
California	State Program	9	2931	04-01-19
Connecticut	State Program	1	PH-0568	09-30-18
Florida	NELAP	4	E87672	06-30-19
Georgia	State Program	4	10026 (NY)	03-31-19
Illinois	NELAP	5	200003	09-30-18
Iowa	State Program	7	374	03-01-19
Kansas	NELAP	7	E-10187	01-31-19
Kentucky (DW)	State Program	4	90029	12-31-18
Kentucky (UST)	State Program	4	30	03-31-19
Kentucky (WW)	State Program	4	90029	12-31-18
Louisiana	NELAP	6	02031	06-30-18 *
Maine	State Program	1	NY00044	12-04-18
Maryland	State Program	3	294	03-31-19
Massachusetts	State Program	1	M-NY044	06-30-19
Michigan	State Program	5	9937	03-31-19
Minnesota	NELAP	5	036-999-337	12-31-18
New Hampshire	NELAP	1	2337	11-17-18
New Jersey	NELAP	2	NY455	06-30-19
New York	NELAP	2	10026	03-31-19
North Dakota	State Program	8	R-176	03-31-19
Oklahoma	State Program	6	9421	08-31-18
Oregon	NELAP	10	NY200003	06-09-19
Pennsylvania	NELAP	3	68-00281	07-31-18 *
Rhode Island	State Program	1	LAO00328	12-30-18
Tennessee	State Program	4	TN02970	03-31-19
Texas	NELAP	6	T104704412-15-6	07-31-18 *
USDA	Federal		P330-11-00386	02-06-21
Virginia	NELAP	3	460185	09-14-18
Washington	State Program	10	C784	02-10-19
Wisconsin	State Program	5	998310390	08-31-18

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

Method Summary

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

TestAmerica Job ID: 480-138693-1

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
3005A	Preparation, Total Metals	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF
Distill/Ammonia	Distillation, Ammonia	None	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.
None = None
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: 480-138693-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-138693-1	MW-562-20180711	Water	07/11/18 10:55	07/12/18 01:15
480-138693-2	MW-563-20180711	Water	07/11/18 10:00	07/12/18 01:15
480-138693-3	REW-6-20180711	Water	07/11/18 08:10	07/12/18 01:15
480-138693-4	REW-7-20180711	Water	07/11/18 09:05	07/12/18 01:15
480-138693-5	TRIP BLANK	Water	07/11/18 00:00	07/12/18 01:15

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 480-138693-1

Login Number: 138693
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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information:

Client Contact:	Vicki Parigan
Company:	Innovative Engineering Solutions Inc
Address:	25 Spring St
City:	Walpole
State and Zip:	MA 02081
Client's Phone:	508-668-0033
Client's Contact Email:	vparigan@IESI online.com
Client's Project Name/Number:	Raytheon Wayland RA-008
Sample Collection Site Name & Location:	Wayland MA
Sample Collector's Name (Please Print Neatly):	Doug Jones
Sample Collector's Phone:	508-404-3190
Due Date Requested:	7/18/18
Turnaround Time (TAT) Requested (business days):	5 days
Quote # or Project #:	
PO #:	RA-008
WO #:	
PWS ID #:	
Lab PM:	
E-Mail:	
Lab COC Barcode Label	480-138693 COC
COC No:	40794
Page:	1 of 1
Job #:	

Analysis Requested

Sample Identification	Sample Collection Date (MM/DD/YY)	Sample Collection Time (24 Hour Clock)	Sample Type: C=Comp G=Grab	Matrix Type **	8260 MCP	350.1 NH3	6010MCP Total Iron	9060A TOC	2320B Alkalinity	3000-SRD SO4/Cl/NO2/NO3	4500-pH Ortho-P/Nitrite/Cl/pH 353.2 Nitrate	Total Number of Containers (enter total for each line)	Special Instructions & Notes:
			Preservation Codes =>		A	$	D	A	N	N	N		
MW-562-20180711	7/11/18	1055	G	W	X	X	X	X	X	X	X	10	GW-3 requirements
MW-563-20180711	7/11/18	1000	G	W	X	X	X	X	X	X	X	10	
REW-6-20180711	7/11/18	0810	G	W	X	X	X	X	X	X	X	10	
REW-7-20180711	7/11/18	0905	G	W	X	X	X	X	X	X	X	10	
Trip Blank	—	—	—	W	X							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.

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

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/11/18 1150	IESI	TEST America Lock Box	7-11-18 1300	
[signature]	7-11-18 1/80	TA	[signature]	7-12-18 0115	TA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.7 #1

WI-QA-010 rev 8

Revised 10/29/2014
TAL-8245-360R

ANALYTICAL REPORT

Lab Number:	L1826286
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:	07/19/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: RAYTHEON WAYLAND
Project Number: RA-008

Lab Number: L1826286
Report Date: 07/19/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1826286-01	MW-562-20180711	WATER	WAYLAND, MA	07/11/18 10:55	07/11/18
L1826286-02	MW-563-20180711	WATER	WAYLAND, MA	07/11/18 10:00	07/11/18
L1826286-03	MW-267S-20180710	WATER	WAYLAND, MA	07/10/18 11:00	07/11/18
L1826286-04	MW-268S-20180710	WATER	WAYLAND, MA	07/10/18 08:20	07/11/18
L1826286-05	MW-268M-20180710	WATER	WAYLAND, MA	07/10/18 09:05	07/11/18
L1826286-06	REW-6-20180711	WATER	WAYLAND, MA	07/11/18 08:10	07/11/18
L1826286-07	REW-7-20180711	WATER	WAYLAND, MA	07/11/18 09:05	07/11/18
L1826286-08	REW-11-20180710	WATER	WAYLAND, MA	07/10/18 10:00	07/11/18
L1826286-09	REW-12-20180710	WATER	WAYLAND, MA	07/10/18 11:55	07/11/18

Project Name: RAYTHEON WAYLAND
Project Number: RA-008
Lab Number: L1826286
Report Date: 07/19/18

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

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

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

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

Project Name: RAYTHEON WAYLAND **Lab Number:** L1826286
Project Number: RA-008 **Report Date:** 07/19/18

Case Narrative (continued)

Dissolved Gases

L1826286-01, -02, -03, -05, -06, -07, 08, -09: 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.

The WG1134917-9 MS recovery, performed on L1826286-04, is outside the acceptance criteria for methane (476%). The unacceptable percent recovery is attributed to the elevated concentrations of target compounds present in the native sample.

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

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 07/19/18

ORGANICS

VOLATILES

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-01
Client ID: MW-562-20180711
Sample Location: WAYLAND, MA
Date Collected: 07/11/18 10:55
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 08:39
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	18800	E	ug/l	5.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	0.525		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-01 D
Client ID: MW-562-20180711
Sample Location: WAYLAND, MA

Date Collected: 07/11/18 10:55
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 12:33
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	18400		ug/l	25.0	--	5	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-02
Client ID: MW-563-20180711
Sample Location: WAYLAND, MA

Date Collected: 07/11/18 10:00
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 08:57
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	36600	E	ug/l	5.00	--	1	A
Ethene	1.82		ug/l	0.500	--	1	A
Ethane	2.40		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-02 D
Client ID: MW-563-20180711
Sample Location: WAYLAND, MA

Date Collected: 07/11/18 10:00
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 13:08
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	31400		ug/l	50.0	--	10	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-03
Client ID: MW-267S-20180710
Sample Location: WAYLAND, MA
Date Collected: 07/10/18 11:00
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 09:14
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	13500	E	ug/l	5.00	--	1	A
Ethene	5.33		ug/l	0.500	--	1	A
Ethane	0.866		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-03 D
Client ID: MW-267S-20180710
Sample Location: WAYLAND, MA

Date Collected: 07/10/18 11:00
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 12:49
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	13100		ug/l	25.0	--	5	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-04
Client ID: MW-268S-20180710
Sample Location: WAYLAND, MA
Date Collected: 07/10/18 08:20
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 09:32
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	6320		ug/l	5.00	--	1	A
Ethene	2.82		ug/l	0.500	--	1	A
Ethane	0.926		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-05
Client ID: MW-268M-20180710
Sample Location: WAYLAND, MA
Date Collected: 07/10/18 09:05
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 09:50
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	35200	E	ug/l	5.00	--	1	A
Ethene	11.8		ug/l	0.500	--	1	A
Ethane	8.98		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-05 D
Client ID: MW-268M-20180710
Sample Location: WAYLAND, MA

Date Collected: 07/10/18 09:05
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 13:24
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	30300		ug/l	50.0	--	10	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-06
Client ID: REW-6-20180711
Sample Location: WAYLAND, MA

Date Collected: 07/11/18 08:10
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 10:07
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	29800	E	ug/l	5.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	5.06		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-06 D
Client ID: REW-6-20180711
Sample Location: WAYLAND, MA

Date Collected: 07/11/18 08:10
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 13:42
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	25900		ug/l	50.0	--	10	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-07
Client ID: REW-7-20180711
Sample Location: WAYLAND, MA
Date Collected: 07/11/18 09:05
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 10:25
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	32500	E	ug/l	5.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	10.9		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-07 D
Client ID: REW-7-20180711
Sample Location: WAYLAND, MA

Date Collected: 07/11/18 09:05
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 13:59
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	27900		ug/l	50.0	--	10	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-08
Client ID: REW-11-20180710
Sample Location: WAYLAND, MA
Date Collected: 07/10/18 10:00
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 10:43
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	30500	E	ug/l	5.00	--	1	A
Ethene	8.60		ug/l	0.500	--	1	A
Ethane	23.4		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-08 D
Client ID: REW-11-20180710
Sample Location: WAYLAND, MA

Date Collected: 07/10/18 10:00
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 14:35
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	26200		ug/l	50.0	--	10	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-09
Client ID: REW-12-20180710
Sample Location: WAYLAND, MA
Date Collected: 07/10/18 11:55
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 11:00
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	31000	E	ug/l	5.00	--	1	A
Ethene	0.619		ug/l	0.500	--	1	A
Ethane	7.09		ug/l	0.500	--	1	A

Project Name: RAYTHEON WAYLAND
Lab Number: L1826286
Project Number: RA-008
Report Date: 07/19/18

SAMPLE RESULTS

Lab ID: L1826286-09 D
Client ID: REW-12-20180710
Sample Location: WAYLAND, MA

Date Collected: 07/10/18 11:55
Date Received: 07/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 07/12/18 14:51
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	25900		ug/l	50.0	--	10	A

Project Name: RAYTHEON WAYLAND
Project Number: RA-008
Lab Number: L1826286
Report Date: 07/19/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 07/12/18 08:21
Analyst: JT

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 01-09 Batch: WG1134917-5						
Methane	ND		ug/l	5.00	--	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: L1826286

Report Date: 07/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-09 Batch: WG1134917-4									
Methane	100		-		80-120	-		25	A
Ethene	98		-		80-120	-		25	A
Ethane	95		-		80-120	-		25	A

Matrix Spike Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Project Number: RA-008

Lab Number: L1826286

Report Date: 07/19/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab	Associated sample(s): 01-09	QC Batch ID: WG1134917-9	QC Sample: L1826286-04	Client ID: MW-268S-20180710									
Methane	6320	54.6	6580	**476**	Q	-	-		80-120	-		25	A
Ethene	2.82	95.5	107	109		-	-		80-120	-		25	A
Ethane	0.926	102	110	107		-	-		80-120	-		25	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: RAYTHEON WAYLAND
Project Number: RA-008

Lab Number: L1826286
Report Date: 07/19/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1134917-8 QC Sample: L1826286-04 Client ID: MW-268S-20180710							
Methane	6320	6940	ug/l	9		25	A
Ethene	2.82	3.09	ug/l	9		25	A
Ethane	0.926	0.978	ug/l	5		25	A

Project Name: RAYTHEON WAYLAND
Project Number: RA-008

Lab Number: L1826286
Report Date: 07/19/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1826286-01A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-01B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-02A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-02B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-03A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-03B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-04A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-04B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-05A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-05B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-06A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-06B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-07A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-07B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-08A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-08B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-09A	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)
L1826286-09B	20ml Vial HCl preserved	A	NA		2.9	Y	Absent		DISSGAS(14)

*Values in parentheses indicate holding time in days

Project Name:	RAYTHEON WAYLAND	**Lab Number:**	L1826286
Project Number:	RA-008	**Report Date:**	07/19/18

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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.

Report Format: Data Usability Report

Project Name:	RAYTHEON WAYLAND	**Lab Number:**	L1826286
Project Number:	RA-008	**Report Date:**	07/19/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
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: Chloride, 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: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 7/11/18

ALPHA Job #: L8 26286

Client Information

Client: Innovative Engineering Solutions
Address: 23 Spring St
Walpole MA 02081
Phone: 508-668-0033
Email: k.pratique@IESolutions.com

Additional Project Information:

Project Information

Project Name: Raytheon Wayland
Project Location: Wayland MA
Project #: RA-008
Project Manager: Vicki Pratique
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 5 Days 7/18/18

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 GW-3

ANALYSIS
VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
Dissolved Gases (methane, ethane, ethene)

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
26286.01	MW-362-20180711	7/11/18	1055	GW		X	2
.02	MW-363-20180711	7/11/18	1000	GW		X	2
.03	MW-227S-20180710	7/10/18	1100	GW		X	2
.04	MW-218S-20180710	7/10/18	0820	GW		X	2
.05	MW-218M-20180710	7/10/18	0905	GW		X	2
.06	REG-6-20180711	7/11/18	0810	GW		X	2
.07	REG-7-20180711	7/11/18	0905	GW		X	2
.08	REG-11-20180710	7/10/18	1000	GW		X	2
.09	REG-12-20180710	7/10/18	1155	GW		X	2
	Temp Blank	—	—	—		—	1
						Container Type	
						Preservative	

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_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/18 1240	AAL	7-11-18 1240

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

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