New York State Department of Environmental Remediation
Division of Materials Management
Inactive Landfill Initiative
Field Activities Summary

Landfill Name: **Utica City Dump (DER #633015)**

Region: **6**

Database ID: **6181**

Date of Field Activities: **2/26/2019-3/4/2019**

Summary of Field Activities

Five existing monitoring wells were developed and four existing monitoring wells were sampled. The field activities were conducted according to the Hydrogeologic Investigation at the Utica City Dump NYSDEC Region 6 - Oneida County Utica, New York Work Plan with the following deviations: one existing monitoring well was not sampled due to low water volume recovery in the well.

Monitoring Wells Installed

Monitoring Well ID	Northing	Easting	Elevation	Well Development Date	Comments
N/A	N/A	N/A	N/A	N/A	N/A

Monitoring Wells Sampled

Monitoring Well ID	Date	Sample Collected (yes/no)	Comments
MW-UNK-01	3/4/2019	Yes	6-ONE-001-002-04
MW-UNK-03	N/A	No	Did not sample due to low water volume
MW-UNK-05	3/4/2019	Yes	6-ONE-001-002-03
MW-UNK-06	3/4/2019	Yes	6-ONE-001-002-02
B-4	2/28/2019	Yes	6-ONE-001-001-01

Other Samples

Sample Location	Sample Type	Date	Comments
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

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Attachment 1

Site Specific Work Plan

Site-Specific Work Plan for:

HYDROGEOLOGIC INVESTIGATION
AT THE
UTICA CITY DUMP
NYSDEC REGION 6 - ONEIDA COUNTY
UTICA, NEW YORK

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State Department of Environmental Conservation
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January 2019

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Site Specific Work Plan For Hydrogeologic Investigation At Utica City Dump Site

1.0 PROJECT BACKGROUND

This hydrogeologic investigation is part of the New York State Department of Environmental Conservation's (NYSDEC's) Inactive Landfills Initiative. The objective of the Initiative is to assess inactive landfills in New York State for potential impacts to drinking water sources and other potential receptors.

2.0 PROJECT OBJECTIVES

The objective of this hydrogeological investigation is to provide an initial assessment of the potential for impacts to groundwater in the immediate vicinity of the Utica City Dump (Site # 633015) **(Figure 1)**. This objective will be accomplished by sampling four groundwater monitoring wells and analyzing the samples for a suite of target organic and inorganic contaminants. The sample data will be evaluated to assess whether groundwater quality has been impacted by the landfill operations.

3.0 SITE SETTING

The landfill is located on Incinerator Road, east of Leland Avenue, in between the Mohawk River and Erie Canal. The landfill is bound to the west by the City of Utica inactive landfill site and to the east by undeveloped land and a meander of the Mohawk River.

According to the Record of Decision from August 2003 by NYSDEC, the Utica City Dump was a municipal landfill that operated from 1930-1972 and accepted on-site generated incinerator ash, industrial, municipal, and residential waste. From 1972-1997, demolition disposal materials (historically referenced as 'Utica City Demolition Landfill') and arson materials (historically referenced as the 'Arson Area') were landfilled at the site. Historically, metal drums, tires, and demolition debris including metal and concrete slabs were piled on the surface in several areas of the landfill. The materials were disposed over an approximate 52-acre area.

3.1 GROUNDWATER AND SURFACE WATER OCCURRENCE AND FLOW

The Utica City Dump is located adjacent to the Erie Canal and Mohawk River within the city limits of Utica, New York. The landfill is located on a strip of land between these two bodies of water and consists of many low-lying, inundated areas.

Based on boring logs and site investigations, the water table is within 1-15 feet of the ground surface. Landfill waste ranges in thickness from 10-15 feet and in some areas the landfill waste is within the water table. The groundwater flow is generally radial in the direction of the Erie Canal and Mohawk River.

According to the Record of Decision from August 2003, the site is underlain by recent alluvial deposits, followed by glacial outwash deposits of interbedded sand and gravel, glacial till, and lake deposits consisting of clays and silts. The overburden at the surface is very disturbed by the extensiveness of dumping and historical invasive activities completed on and around the landfill. Underlying the unconsolidated deposits is the Utica Shale formation which is reportedly encountered at approximately 100 feet below ground surface.

4.0 HYDROGEOLOGICAL INVESTIGATION AND SCOPE OF WORK

Field activities will be conducted in accordance with the Quality Assurance Project Plan (QAPP), Field Activities Plan (FAP), and Health and Safety Plan (HASP), which have been prepared and approved specifically for the NYSDEC Inactive Landfill Initiative program.

The specific field procedures to be used during this investigation are described in the FAP. That document describes the drilling methods, well installation and sampling methods, and handling of investigation-derived waste. The QAPP describes the analytical procedures to be used by the laboratory in analyzing the groundwater samples.

4.1 GROUNDWATER SAMPLING

Due to the anticipated radial groundwater flow at the landfill, the following four existing perimeter monitoring wells will be sampled:

- MW-UNK-01 (northwest)
- MW-UNK-03 (north)
- MW-UNK-05 (east)
- MW-UNK-06 (south)

Additionally, monitoring well B-4 (located east of historically referenced Utica City Demolition Landfill) will be sampled to evaluate groundwater quality immediately downgradient of the Utica City Demolition Landfill. The wells will be developed according to the FAP prior to groundwater sampling.

Samples will be collected from each specified well location and analyzed as described in the FAP. If a well yield is insufficient to support low flow sampling, the sampling will be completed using another acceptable technique as outlined in the FAP. The wells will be purged prior to sampling, and all sampling equipment will be dedicated to that sampling location, or will be decontaminated between sampling locations using the methods provided in the FAP.

Samples will be analyzed for modified baseline VOCs, polycyclic aromatic hydrocarbons, 1,4-dioxane, perfluorinated compounds, baseline leachate indicators, and modified baseline metals. A complete list of analytical parameters is provided in **Table 1**.

5.0 INVESTIGATION REPORTING

Groundwater sampling logs, analytical data, and a site work summary will be provided at the completion of field activities for the site.

TABLE 1 – ANALYTICAL PARAMETERS

Parameter	Method	Parameter	Method
Leachate Indicators		**Inorganics**	
Ammonia	350.1 / SM20 4500NH3 B/D	Aluminum	SW6010C
Chemical Oxygen Demand	410.4	Antimony	SW6010C
Total Organic Carbon	EPA 9060 / SM20 5310B/C	Arsenic	SW6010C
Total Dissolved Solids	SM20 2540C	Barium	SW6010C
Sulfate	300	Boron	SW6010C
Alkalinity	SM20 2320B	Beryllium	SW6010C
Chloride	300	Cadmium	SW6010C
Bromide	300	Calcium	SW6010C
Total hardness as CaCO3	SM20 2340C	Chromium	SW6010C
		Cobalt	SW6010C
PAHs + 1,4-Dioxane		Copper	SW6010C
Acenaphthene	8270D SIM	Iron	SW6010C
Acenaphthylene	8270D SIM	Lead	SW6010C
Anthracene	8270D SIM	Magnesium	SW6010C
Benzo(a)anthracene	8270D SIM	Manganese	SW6010C
Benzo(a)pyrene	8270D SIM	Nickel	SW6010C
Benzo(b)fluoranthene	8270D SIM	Potassium	SW6010C
Benzo(g,h,i)perylene	8270D SIM	Selenium	SW6010C
Benzo(k)fluoranthene	8270D SIM	Silver	SW6010C
Chrysene	8270D SIM	Sodium	SW6010C
Dibenzo(a,h)anthracene	8270D SIM	Thallium	SW6010C
Fluoranthene	8270D SIM	Vanadium	SW6010C
Fluorene	8270D SIM	Zinc	SW6010C
Indeno(1,2,3-cd)pyrene	8270D SIM	Mercury	SW7470A
Naphthalene	8270D SIM	Mercury	E1631
Phenanthrene	8270D SIM	Dissolved Mercury	E1631
Pyrene	8270D SIM		
1-4-Dioxane	8270D SIM		

TABLE 1 – ANALYTICAL PARAMETERS
(Continued)

Parameter	Method	Parameter	Method
Volatiles			
Acetone	SW8260C	Ethylbenzene	SW8260C
Acrylonitrile	SW8260C	2-Hexanone	SW8260C
Benzene	SW8260C	Bromomethane	SW8260C
Bromochloromethane	SW8260C	Chloromethane (Methyl chloride)	SW8260C
Bromodichloromethane	SW8260C	Dibromomethane	SW8260C
Bromoform	SW8260C	Methylene chloride	SW8260C
Carbon disulfide	SW8260C	2-Butanone (Methyl ethyl ketone)	SW8260C
Carbon tetrachloride	SW8260C	Idomethane (Methyl iodide)	SW8260C
Chlorobenzene	SW8260C	4-Methyl-2-pentanone (Methyl isobutyl ketone)	SW8260C
Chloroethane	SW8260C	Styrene	SW8260C
Chloroform	SW8260C	1,1,1,2-Tetrachloroethane	SW8260C
Dibromochloromethane	SW8260C	1,1,2,2-Tetrachloroethane	SW8260C
1,2-Dibromo-3-chloropropane	SW8260C	Tetrachloroethene	SW8260C
1,2-Dibromoethane (Ethylene dibromide)	SW8260C	Toluene	SW8260C
1,2-Dichlorobenzene	SW8260C	1,1,1-Trichloroethane	SW8260C
1,4-Dichlorobenzene	SW8260C	1,1,2-Trichloroethane	SW8260C
trans-1,4-Dichloro-2-butene	SW8260C	Trichloroethene	SW8260C
1,1-Dichloroethane	SW8260C	Trichlorofluoromethane	SW8260C
1,2-Dichloroethane	SW8260C	1,2,3-Trichloropropane	SW8260C
1,1-Dichloroethene	SW8260C	Vinyl acetate	SW8260C
cis-1,2-Dichloroethene	SW8260C	Vinyl chloride	SW8260C
trans-1,2-Dichloroethene	SW8260C	o-Xylene	SW8260C
1,2-Dichloropropane	SW8260C	m,p-Xylene	SW8260C
cis-1,3-Dichlororpropene	SW8260C	Xylenes, Total	SW8260C
trans-1,3-Dichlororpropene	SW8260C		

TABLE 1 – ANALYTICAL PARAMETERS
(Continued)

Parameter	Method
Perfluorobutanoic acid (PFBA)	Modified 537
Perfluoropentanoic acid (PFPeA)	Modified 537
Perfluorohexanoic acid (PFHxA)	Modified 537
Perfluoroheptanoic acid (PFHpA)	Modified 537
Perfluorooctanoic acid (PFOA)	Modified 537
Perfluorononanoic acid (PFNA)	Modified 537
Perfluorodecanoic acid (PFDA)	Modified 537
Perfluoroundecanoic acid (PFUnA)	Modified 537
Perfluorododecanoic acid (PFDoA)	Modified 537
Perfluorotridecanoic Acid (PFTriA)	Modified 537
Perfluorotetradecanoic acid (PFTeA)	Modified 537
Perfluorobutanesulfonic acid (PFBS)	Modified 537
Perfluorohexanesulfonic acid (PFHxS)	Modified 537
Perfluoroheptanesulfonic Acid (PFHpS)	Modified 537
Perfluorooctanesulfonic acid (PFOS)	Modified 537
Perfluorodecanesulfonic acid (PFDS)	Modified 537
Perfluorooctane Sulfonamide (FOSA)	Modified 537
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	Modified 537
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	Modified 537
6:2 Fluorotelomer sulfonate (6:2FTS)	Modified 537
8:2 Fluorotelomer sulfonate (8:2FTS)	Modified 537

N

LEGEND

- MONITORING WELL
- MONITORING WELL (DAMAGED)
- MONITORING WELL (TO BE SAMPLED)
- SEEP
- EXPOSED WASTE
- MISC FEATURE
- WATER FEATURE
- APPROXIMATE INACTIVE LANDFILL EXTENT

NEW YORK STATE
DEPARTMENT OF CONSERVATION
UTICA CITY DUMP
UTICA, NEW YORK
REGION 6: ONEIDA COUNTY

SITE PLAN

0 250 500 1,000
Feet

8653.65982
JANUARY 2019

O'BRIEN & GERE ENGINEERS, INC.

Attachment 2

Boring and Well Construction Logs

[NA]

Attachment 3

Sampling Logs

O'Brien & Gere Engineers, Inc. — Low Flow Ground Water Sampling Log

Date	3/1/2019	Personnel	BWL, MTB	Weather	Sunny 10°F
Site Name	Utica City Dump	Evacuation Method	Low-Flow	Well #	MW-UNK-01
Site Location	Utica, NY	Sampling Method	Peristaltic Pump	Project #	65982

Well information:

Depth of Well *	18.20	ft.	* Measurements taken from	
Depth to Water *	9.64	ft.	X	Top of Well Casing
Length of Water Column	8.56	ft.		Top of Protective Casing
Depth to Intake *	14.20	ft.		(Other, Specify)

Start Purge Time: 12:40

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft bmp)**	**Temperature (celsius)**	**pH (SU)**	**Conductivity (mS/cm)**	**Oxidation Reduction Potential (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (mL/min)**
0	9.64	7.80	6.91	0.478	46.2	2.92	48.4	200
5	9.98	7.60	6.71	0.474	45.2	1.68	44.2	200
10	10.29	8.40	6.69	0.472	44.0	1.33	48.7	300
15	10.43	8.10	6.68	0.446	.6.3	1.15	14.5	300
20	10.60	8.00	6.67	0.452	23.0	0.92	7.74	300
25	10.89	8.00	6.67	0.471	8.3	0.53	7.06	500
30	11.27	8.10	6.68	0.485	7.7	0.52	6.11	500
35	11.71	8.20	6.67	0.490	4.1	0.83	5.58	500
40	12.10	8.40	6.66	0.482	10.7	1.31	5.33	500
45	12.55	8.40	6.65	0.476	21.6	1.79	4.51	500
50	13.06	8.6	6.66	0.472	26.6	1.67	3.29	600
55	13.77	8.8	6.66	0.468	24.3	1.22	2.65	600
60	14.60	9.0	6.77	0.481	26.2	0.31	3.2	600
65	15.52	9.0	6.85	0.495	-23.8	0.05	2.31	700
70	15.94	9.1	6.88	0.480	-21.5	0.01	55.2	700
75	17.33	9.4	6.76	0.513	-41.0	0.04	7.53	700
80	18.20	9.5	6.79	0.564	-30.0	0.35	57.4	700

End Purge Time: 1400

Water Level Dropped more than .3 feet.

Well purged dry and not low flow sampled

Water sample:

Time collected: 3/4/19 1350

Total volume of purged water removed: ~14 gals

Physical appearance at start			Physical appearance at sampling	
Color	Clear	*Faint Organic Odor	Color	Clear
Odor	None	After 5 mins of pumping	Odor	None
Sheen/Free Product	None		Sheen/Free Product	None

Field Test Results:

Dissolved ferrous iron:	-
Dissolved total iron:	-
Dissolved total manganese:	-

Analytical Parameters: 6-ONE-001-002-04 Date: 3/4/2019 Time: 13:50

Sample	Container Type	# Collected	Field Filtered	Preservative	Laboratory
PFAS	250 ml Polyethylene	2	No	None	Test America
Semivolatiles	250 ml Amber Glass	2	No	None	Test America
ulfate, Chloride, Bromid	60 ml Polyethylene	1	No	None	Test America
Ammonia, COD	250 ml Polyethylene	1	No	Sulfuric Acid	Test America
etals, Mercury, Hardne	250 ml Polyethylene	2	No	Nitric Acid	Test America
TDS	500 ml Polyethylene	1	No	None	Test America
Alkalinity	125 mL Polyethylene	1	No	None	Test America
3- VOCs, 2- TOC	40 ml Clear VOA	5	No	Hydrochloric Acid	Test America
1,4 Dioxane	1 L Amber Glass	2	No	None	Test America

O'Brien & Gere Engineers, Inc. — Low Flow Ground Water Sampling Log

Date	3/4/2019	Personnel	BWL, MTB	Weather	Snow, 15ºF
Site Name	Utica City Dump	Evacuation Method	Low-Flow	Well #	MW-UNK-05
Site Location	Utica, NY	Sampling Method	Peristaltic Pump	Project #	65982

Well information:

Depth of Well *	20.14	ft.	* Measurements taken from	
Depth to Water *	4.93	ft.	X	Top of Well Casing
Length of Water Column	15.21	ft.		Top of Protective Casing
Depth to Intake *	16.14	ft.		(Other, Specify)

Start Purge Time: 11:40

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft bmp)**	**Temperature (celsius)**	**pH (SU)**	**Conductivity (mS/cm)**	**Oxidation Reduction Potential (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (mL/min)**
0	4.93	4.40	7.60	1.315	-192.6	3.38	94.9	200
5	5.14	5.90	7.16	1.317	-153.9	0.76	48.2	300
10	5.14	6.20	7.11	1.329	-154.0	0.43	38.2	300
15	5.14	7.30	6.85	1.853	-145.0	0.28	76.3	300
20	5.14	7.60	6.83	1.855	-145.1	0.21	52.6	300
25	5.14	7.60	6.83	1.861	-143.8	0.16	34.6	300
30	5.14	7.70	6.83	1.855	-142.1	0.11	23.8	300
35	5.14	7.70	6.83	1.856	-142.1	0.09	21.7	300
40	5.14	7.60	6.83	1.858	-141.9	0.09	20.0	300

End Purge Time: 1220

Water sample:

Time collected: 12:30

Total volume of purged water removed: ~4 gals

Physical appearance at start			Physical appearance at sampling	
Color	Clear	*Faint Organic Odor	Color	Clear
Odor	None	After 5 mins of pumping	Odor	None
Sheen/Free Product	None		Sheen/Free Product	None

Field Test Results:

Dissolved ferrous iron:	-
Dissolved total iron:	-
Dissolved total manganese:	-

Analytical Parameters: 6-ONE-001-002-03 Date: 3/4/2019 Time: 12:30

Sample	Container Type	# Collected	Field Filtered	Preservative	Laboratory
PFAS	250 ml Polyethylene	2	No	None	Test America
Semivolatiles	250 ml Amber Glass	2	No	None	Test America
Sulfate, Chloride, Bromide	60 ml Polyethylene	1	No	None	Test America
Ammonia, COD	250 ml Polyethylene	1	No	Sulfuric Acid	Test America
Metals, Mercury, Hardness	250 ml Polyethylene	2	No	Nitric Acid	Test America
TDS	500 ml Polyethylene	1	No	None	Test America
Alkalinity	125 mL Polyethylene	1	No	None	Test America
3- VOCs, 2- TOC	40 ml Clear VOA	5	No	Hydrochloric Acid	Test America
1,4 Dioxane	1 L Amber Glass	2	No	None	Test America

O'Brien & Gere Engineers, Inc.

Low Flow Ground Water Sampling Log

Date	3/4/2019	Personnel	BWL, MTB	Weather	Cloudy 20ºF
Site Name	Utica City Dump	Evacuation Method	Low-Flow	Well #	MW-UNK-06
Site Location	Utica, NY	Sampling Method	Peristaltic Pump	Project #	65982

Well information:

Depth of Well *	25.10	ft.	* Measurements taken from	
Depth to Water *	14.69	ft.	X	Top of Well Casing
Length of Water Column	10.41	ft.		Top of Protective Casing
Depth to Intake *	20.10	ft.		(Other, Specify)

Start Purge Time: 9:40

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft bmp)**	**Temperature (celsius)**	**pH (SU)**	**Conductivity (mS/cm)**	**Oxidation Reduction Potential (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (mL/min)**
0	14.69	9.60	6.39	2.160	-44.2	1.50	57.3	300
5	14.71	11.00	10.51	2.171	-0.9	0.31	52.4	400
10	14.71	11.00	6.53	2.186	-86.6	0.07	26.4	400
15	14.71	11.30	6.53	2.181	-93.1	0.04	22.9	400
20	14.71	11.50	6.53	2.187	-99.8	0.01	18.3	400
25	14.71	11.80	6.54	2.186	-107.2	0.00	16.2	400
30	14.71	11.60	6.54	2.188	-111.6	0.00	8.92	400
35	14.71	11.50	6.53	2.189	-115.6	0.00	8.01	400
40	14.71	11.60	6.54	2.188	-118.5	0.00	8.00	400

End Purge Time: 10:20

Water sample:

Time collected: 10:25

Total volume of purged water removed: ~ 7 gals

Physical appearance at start		Physical appearance at sampling	
Color	Clear	Color	Clear
Odor	Faint Chemcial Odor	Odor	Faint Chemical Odor
Sheen/Free Product	None	Sheen/Free Product	None

Field Test Results:

Dissolved ferrous iron:	-
Dissolved total iron:	-
Dissolved total manganese:	-

***Field Duplicate Collected Here**

Analytical Parameters: 6-ONE-001-002-01/ 6-ONE-001-002-02 Date: 3/4/2019 Time: 10:25

Sample	Container Type	# Collected	Field Filtered	Preservative	Laboratory
PFAS	250 ml Polyethylene	4	No	None	Test America
Semivolatiles	250 ml Amber Glass	4	No	None	Test America
Sulfate, Chloride, Bromide	60 ml Polyethylene	2	No	None	Test America
Ammonia, COD	250 ml Polyethylene	2	No	Sulfuric Acid	Test America
Metals, Mercury, Hardness	250 ml Polyethylene	4	No	Nitric Acid	Test America
TDS	500 ml Polyethylene	2	No	None	Test America
Alkalinity	125 mL Polyethylene	2	No	None	Test America
3- VOCs, 2- TOC	40 ml Clear VOA	10	No	Hydrochloric Acid	Test America
1,4 Dioxane	1 L Amber Glass	4	No	None	Test America

O'Brien & Gere Engineers, Inc. — Low Flow Ground Water Sampling Log

Date	2/28/2019	Personnel	BWL, MTB	Weather	Sunny, 10º
Site Name	Utica City Dump	Evacuation Method	Low-Flow	Well #	B-4
Site Location	Utica, NY	Sampling Method	Peristaltic Pump	Project #	65982

Well information:

Depth of Well *	18.85	ft.	* Measurements taken from	
Depth to Water *	8.52	ft.	X	Top of Well Casing
Length of Water Column	10.33	ft.		Top of Protective Casing
Depth to Intake *	14.85	ft.		(Other, Specify)

Start Purge Time: 1145

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft bmp)**	**Temperature (celsius)**	**pH (SU)**	**Conductivity (mS/cm)**	**Oxidation Reduction Potential (mV)**	**Dissolved Oxygen (%)**	**Turbidity (NTU)**	**Flow Rate (mL/min)**
0	8.52	6.90	7.01	0.975	-36.2	74.10	96.3	500
5	8.64	6.87	6.87	0.997	-52.7	40.90	51.8	400
10	8.64	6.91	6.84	1.010	-64.4	19.90	22.9	400
15	8.64	6.92	6.82	1.011	-66.3	16.40	16.7	400
20	8.64	6.72	6.82	1.001	-64.7	14.50	11.2	400
25	8.64	6.83	6.81	1.003	-63.6	13.50	6.06	400
30	8.64	6.63	6.81	0.994	-65.4	13.20	5.95	400
35	8.64	6.69	6.81	0.992	-67.2	13.40	4.63	400
40	8.64	6.78	6.80	0.993	-68.1	14.50	3.86	400
45	8.64	6.66	6.80	0.988	-67.4	13.80	3.33	400

End Purge Time: 1230

Water sample:

Time collected: 12:40

Total volume of purged water removed: ~ 7 gals

Physical appearance at start		Physical appearance at sampling	
Color	Clear	Color	Clear
Odor	None	Odor	Faint Organic Odor
Sheen/Free Product	None	Sheen/Free Product	None

Field Test Results:

Dissolved ferrous iron:	-
Dissolved total iron:	-
Dissolved total manganese:	-

***MS/MSD Collected Here**

Analytical Parameters: 6-ONE-001-001-01 Date: 2/28/2019 Time: 12:40

Sample	Container Type	# Collected	Field Filtered	Preservative	Laboratory
PFAS	250 ml Polyethylene	6	No	None	Test America
Semivolatiles	250 ml Amber Glass	6	No	None	Test America
Sulfate, Chloride, Bromide	60 ml Polyethylene	3	No	None	Test America
Ammonia, COD	250 ml Polyethylene	3	No	Sulfuric Acid	Test America
Metals, Mercury, Hardness	250 ml Polyethylene	6	No	Nitric Acid	Test America
TDS	500 ml Polyethylene	3	No	None	Test America
Alkalinity	125 mL Polyethylene	3	No	None	Test America
3- VOCs, 2- TOC	40 ml Clear VOA	15	No	Hydrochloric Acid	Test America
1,4 Dioxane	1 L Amber Glass	6	No	None	Test America

Attachment 4

Analytical Laboratory Level II Data Deliverable

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 480-149602-1
Client Project/Site: Utica City Dump, Region 6

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

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

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Definitions/Glossary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 480-149602-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-149602-1

Receipt
The samples were received on 3/1/2019 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 1.9º C.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-461387 recovered above the upper control limit for Vinyl Acetate, Carbon tetrachloride and Chlorodibromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: 6-ONE-001-001-01 (480-149602-1) and 6-ONE-001-001-04 (480-149602-4).

Method(s) 8260C: The laboratory control sample (LCS) for analytical batch 480-461387 recovered outside control limits for the following analytes: Chlorodibromomethane, Dichlorobromomethane and Bromoform. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The following samples are impacted:6-ONE-001-001-01 (480-149602-1) and 6-ONE-001-001-04 (480-149602-4).

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

GC/MS Semi VOA
Method(s) 8270D SIM ID: The 1,4-Dioxane result reported for samples 6-ONE-001-001-01 (480-149602-1[MS]) and 6-ONE-001-001-01 (480-149602-1[MSD]) have an E flag qualifier indicating the results are over the calibration range on the raw data. The actual amounts are within the calibration range; however, the E flag is generated based upon the bias corrected concentration. The LIMS system calculates a bias correction based on the recovery of the 1,4-Dioxane-d8 isotope.

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

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

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

LCMS
Method(s) 537 (modified): Results for samples 6-ONE-001-001-01 (480-149602-1), 6-ONE-001-001-01 (480-149602-1[MS]) and 6-ONE-001-001-01 (480-149602-1[MSD]) were reported from the analysis of a diluted extract due to high concentration of target analytes and/or non-target analytes in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method(s) 537 (modified): 13C3 PFBS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 6-ONE-001-001-01 (480-149602-1) and 6-ONE-001-001-01 (480-149602-1[MS]). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

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

General Chemistry
Method(s) SM 2320B: The following sample(s) was received with headspace in the sample container. This sample container was received with headspace. 6-ONE-001-001-01 (480-149602-1), 6-ONE-001-001-01 (480-149602-1[MS]) and 6-ONE-001-001-01 (480-149602-1[MSD]).

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

Organic Prep

Job ID: 480-149602-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

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

Detection Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Client Sample ID: 6-ONE-001-001-01 — Lab Sample ID: 480-149602-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.10	J	0.19	0.095	ug/L	1		8270D SIM ID	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12	F2	9.1	3.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.1	J	9.1	3.5	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	38		9.1	2.8	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	30		9.1	2.9	ng/L	5		537 (modified)	Total/NA
Barium	0.22		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.39		0.020	0.0040	mg/L	1		6010C	Total/NA
Calcium	270		0.50	0.10	mg/L	1		6010C	Total/NA
Cobalt	0.0012	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.0025	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	11.5		0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.0034	J	0.010	0.0030	mg/L	1		6010C	Total/NA
Magnesium	31.0		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	1.3		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0074	J	0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	36.3		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	32.1	B	1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.014	B	0.010	0.0015	mg/L	1		6010C	Total/NA
Bromide	0.14	J	0.20	0.073	mg/L	1		300.0	Total/NA
Chloride	20.5		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	23.0		2.0	0.35	mg/L	1		300.0	Total/NA
Ammonia	1.9		0.020	0.0090	mg/L	1		350.1	Total/NA
Chemical Oxygen Demand	22.4	F1	10.0	5.0	mg/L	1		410.4	Total/NA
Total Organic Carbon	9.5		1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	882		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	780		10.0	2.6	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	918	B	10.0	4.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 6-ONE-001-001-02 — Lab Sample ID: 480-149602-2

No Detections.

Client Sample ID: 6-ONE-001-001-03 — Lab Sample ID: 480-149602-3

No Detections.

Client Sample ID: 6-ONE-001-001-04 — Lab Sample ID: 480-149602-4

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample ID: 6-ONE-001-001-01
Date Collected: 02/28/19 12:40
Date Received: 03/01/19 01:00

Lab Sample ID: 480-149602-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	F1	1.0	0.35	ug/L			03/04/19 12:42	1
1,1,1-Trichloroethane	ND	F1	1.0	0.82	ug/L			03/04/19 12:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/04/19 12:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/04/19 12:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/04/19 12:42	1
1,1-Dichloroethene	ND	F1	1.0	0.29	ug/L			03/04/19 12:42	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/04/19 12:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/04/19 12:42	1
1,2-Dibromoethane	ND	F1	1.0	0.73	ug/L			03/04/19 12:42	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/04/19 12:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/04/19 12:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/04/19 12:42	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/04/19 12:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/04/19 12:42	1
2-Hexanone	ND		5.0	1.2	ug/L			03/04/19 12:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/04/19 12:42	1
Acetone	ND		10	3.0	ug/L			03/04/19 12:42	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/04/19 12:42	1
Benzene	ND	F1	1.0	0.41	ug/L			03/04/19 12:42	1
Bromodichloromethane	ND	* F1	1.0	0.39	ug/L			03/04/19 12:42	1
Bromoform	ND	* F1	1.0	0.26	ug/L			03/04/19 12:42	1
Bromomethane	ND		1.0	0.69	ug/L			03/04/19 12:42	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/04/19 12:42	1
Carbon tetrachloride	ND	F1	1.0	0.27	ug/L			03/04/19 12:42	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/04/19 12:42	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/04/19 12:42	1
Chloroethane	ND		1.0	0.32	ug/L			03/04/19 12:42	1
Chloroform	ND		1.0	0.34	ug/L			03/04/19 12:42	1
Chloromethane	ND		1.0	0.35	ug/L			03/04/19 12:42	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/04/19 12:42	1
cis-1,3-Dichloropropene	ND	F1	1.0	0.36	ug/L			03/04/19 12:42	1
Dibromochloromethane	ND	* F1	1.0	0.32	ug/L			03/04/19 12:42	1
Dibromomethane	ND		1.0	0.41	ug/L			03/04/19 12:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/04/19 12:42	1
Iodomethane	ND		1.0	0.30	ug/L			03/04/19 12:42	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/04/19 12:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/04/19 12:42	1
o-Xylene	ND		1.0	0.76	ug/L			03/04/19 12:42	1
Styrene	ND		1.0	0.73	ug/L			03/04/19 12:42	1
Tetrachloroethene	ND	F1	1.0	0.36	ug/L			03/04/19 12:42	1
Toluene	ND		1.0	0.51	ug/L			03/04/19 12:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/04/19 12:42	1
trans-1,3-Dichloropropene	ND	F1	1.0	0.37	ug/L			03/04/19 12:42	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/04/19 12:42	1
Trichloroethene	ND	F1	1.0	0.46	ug/L			03/04/19 12:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/04/19 12:42	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/04/19 12:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/04/19 12:42	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/04/19 12:42	1

Client Sample ID: 6-ONE-001-001-01
Date Collected: 02/28/19 12:40
Date Received: 03/01/19 01:00

Lab Sample ID: 480-149602-1
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*03/04/19 12:42*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*03/04/19 12:42*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*03/04/19 12:42*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/04/19 12:42*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.10	J	0.19	0.095	ug/L		03/06/19 07:43	03/11/19 22:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*27*		*15 - 110*	*03/06/19 07:43*	*03/11/19 22:56*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		03/05/19 07:44	03/08/19 05:49	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/05/19 07:44	03/08/19 05:49	1
Anthracene	ND		0.50	0.39	ug/L		03/05/19 07:44	03/08/19 05:49	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/05/19 07:44	03/08/19 05:49	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/05/19 07:44	03/08/19 05:49	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/05/19 07:44	03/08/19 05:49	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/05/19 07:44	03/08/19 05:49	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/05/19 07:44	03/08/19 05:49	1
Chrysene	ND	F1	0.50	0.32	ug/L		03/05/19 07:44	03/08/19 05:49	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/05/19 07:44	03/08/19 05:49	1
Fluoranthene	ND		0.50	0.36	ug/L		03/05/19 07:44	03/08/19 05:49	1
Fluorene	ND		0.50	0.37	ug/L		03/05/19 07:44	03/08/19 05:49	1
Indeno[1,2,3-cd]pyrene	ND	F1	0.50	0.44	ug/L		03/05/19 07:44	03/08/19 05:49	1
Naphthalene	ND		0.50	0.42	ug/L		03/05/19 07:44	03/08/19 05:49	1
Phenanthrene	ND		0.50	0.38	ug/L		03/05/19 07:44	03/08/19 05:49	1
Pyrene	ND		0.50	0.36	ug/L		03/05/19 07:44	03/08/19 05:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*101*		*48 - 120*	*03/05/19 07:44*	*03/08/19 05:49*	*1*
Nitrobenzene-d5	*95*		*46 - 120*	*03/05/19 07:44*	*03/08/19 05:49*	*1*
p-Terphenyl-d14	*80*		*24 - 136*	*03/05/19 07:44*	*03/08/19 05:49*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		91	13	ng/L		03/11/19 14:18	03/21/19 01:53	5
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		91	21	ng/L		03/11/19 14:18	03/21/19 01:53	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		91	6.8	ng/L		03/11/19 14:18	03/21/19 01:53	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		91	7.7	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorobutanesulfonic acid (PFBS)	ND		9.1	2.2	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorobutanoic acid (PFBA)	ND		9.1	4.6	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorodecanesulfonic acid (PFDS)	ND	F2	9.1	4.1	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorodecanoic acid (PFDA)	ND		9.1	3.5	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorododecanoic acid (PFDoA)	ND		9.1	2.7	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		9.1	4.3	ng/L		03/11/19 14:18	03/21/19 01:53	5

Client Sample ID: 6-ONE-001-001-01
Date Collected: 02/28/19 12:40
Date Received: 03/01/19 01:00

Lab Sample ID: 480-149602-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND	F2	9.1	4.1	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorohexanesulfonic acid (PFHxS)	**12**	**F2**	9.1	3.6	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorohexanoic acid (PFHxA)	**5.1**	**J**	9.1	3.5	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorononanoic acid (PFNA)	ND		9.1	1.2	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorooctanesulfonamide (PFOSA)	ND		9.1	2.9	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorooctanesulfonic acid (PFOS)	**38**		9.1	2.8	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorooctanoic acid (PFOA)	**30**		9.1	2.9	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluoropentanoic acid (PFPeA)	ND		9.1	2.9	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorotetradecanoic acid (PFTeA)	ND		9.1	4.2	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluorotridecanoic acid (PFTriA)	ND		9.1	2.7	ng/L		03/11/19 14:18	03/21/19 01:53	5
Perfluoroundecanoic acid (PFUnA)	ND		9.1	2.4	ng/L		03/11/19 14:18	03/21/19 01:53	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*94*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C2 PFDoA	*94*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C2 PFHxA	*66*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C2 PFUnA	*101*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C2 PFTeDA	*77*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C3 PFBS	*37*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C4 PFBA	*27*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C4 PFOA	*112*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C4 PFOS	*84*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C4 PFHpA	*84*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C5 PFNA	*114*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C5 PFPeA	*55*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
13C8 FOSA	*69*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
18O2 PFHxS	*50*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
d3-NMeFOSAA	*86*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
d5-NEtFOSAA	*89*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
M2-6:2 FTS	*120*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*
M2-8:2 FTS	*127*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:53*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/02/19 07:30	03/05/19 12:04	1
Antimony	ND		0.020	0.0068	mg/L		03/02/19 07:30	03/05/19 12:04	1
Arsenic	ND		0.015	0.0056	mg/L		03/02/19 07:30	03/05/19 12:04	1
Barium	**0.22**		0.0020	0.00070	mg/L		03/02/19 07:30	03/05/19 12:04	1
Beryllium	ND		0.0020	0.00030	mg/L		03/02/19 07:30	03/05/19 12:04	1
Boron	**0.39**		0.020	0.0040	mg/L		03/02/19 07:30	03/05/19 12:04	1
Cadmium	ND		0.0020	0.00050	mg/L		03/02/19 07:30	03/05/19 12:04	1
Calcium	**270**		0.50	0.10	mg/L		03/02/19 07:30	03/05/19 12:04	1
Chromium	ND		0.0040	0.0010	mg/L		03/02/19 07:30	03/05/19 12:04	1
Cobalt	**0.0012**	**J**	0.0040	0.00063	mg/L		03/02/19 07:30	03/05/19 12:04	1
Copper	**0.0025**	**J**	0.010	0.0016	mg/L		03/02/19 07:30	03/05/19 12:04	1
Iron	**11.5**		0.050	0.019	mg/L		03/02/19 07:30	03/05/19 12:04	1
Lead	**0.0034**	**J**	0.010	0.0030	mg/L		03/02/19 07:30	03/05/19 12:04	1
Magnesium	**31.0**		0.20	0.043	mg/L		03/02/19 07:30	03/05/19 12:04	1
Manganese	**1.3**		0.0030	0.00040	mg/L		03/02/19 07:30	03/05/19 12:04	1

Client Sample ID: 6-ONE-001-001-01

Lab Sample ID: 480-149602-1

Date Collected: 02/28/19 12:40

Matrix: Water

Date Received: 03/01/19 01:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	**0.0074**	**J**	0.010	0.0013	mg/L		03/02/19 07:30	03/05/19 12:04	1
Potassium	**36.3**		0.50	0.10	mg/L		03/02/19 07:30	03/05/19 12:04	1
Selenium	ND		0.025	0.0087	mg/L		03/02/19 07:30	03/05/19 12:04	1
Silver	ND		0.0060	0.0017	mg/L		03/02/19 07:30	03/05/19 12:04	1
Sodium	**32.1**	**B**	1.0	0.32	mg/L		03/02/19 07:30	03/05/19 12:04	1
Thallium	ND		0.020	0.010	mg/L		03/02/19 07:30	03/05/19 12:04	1
Vanadium	ND		0.0050	0.0015	mg/L		03/02/19 07:30	03/05/19 12:04	1
Zinc	**0.014**	**B**	0.010	0.0015	mg/L		03/02/19 07:30	03/05/19 12:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/01/19 11:13	03/01/19 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.14**	**J**	0.20	0.073	mg/L			03/04/19 13:14	1
Chloride	**20.5**		0.50	0.28	mg/L			03/04/19 13:14	1
Sulfate	**23.0**		2.0	0.35	mg/L			03/04/19 13:14	1
Ammonia	**1.9**		0.020	0.0090	mg/L			03/07/19 11:12	1
Chemical Oxygen Demand	**22.4**	**F1**	10.0	5.0	mg/L			03/11/19 09:30	1
Total Organic Carbon	**9.5**		1.0	0.43	mg/L			03/09/19 14:22	1
Alkalinity, Total	**882**		5.0	0.79	mg/L			03/12/19 22:01	1
Total hardness as CaCO3	**780**		10.0	2.6	mg/L			03/06/19 19:20	1
Total Dissolved Solids	**918**	**B**	10.0	4.0	mg/L			03/05/19 04:38	1

Client Sample ID: 6-ONE-001-001-02

Lab Sample ID: 480-149602-2

Date Collected: 02/28/19 14:45

Matrix: Water

Date Received: 03/01/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		18	2.6	ng/L		03/11/19 14:18	03/21/19 02:41	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		18	4.1	ng/L		03/11/19 14:18	03/21/19 02:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.4	ng/L		03/11/19 14:18	03/21/19 02:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	1.5	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.44	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorobutanoic acid (PFBA)	ND		1.8	0.90	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.81	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.69	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.53	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.86	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.82	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.72	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.68	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.58	ng/L		03/11/19 14:18	03/21/19 02:41	1

Client Sample ID: 6-ONE-001-001-02

Lab Sample ID: 480-149602-2

Date Collected: 02/28/19 14:45

Matrix: Water

Date Received: 03/01/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.55	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.57	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.57	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.83	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.54	ng/L		03/11/19 14:18	03/21/19 02:41	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.48	ng/L		03/11/19 14:18	03/21/19 02:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*106*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C2 PFDoA	*96*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C2 PFHxA	*98*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C2 PFUnA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C3 PFBS	*81*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C4 PFBA	*60*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C4 PFOA	*105*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C4 PFOS	*81*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C4 PFHpA	*107*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C5 PFNA	*105*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C5 PFPeA	*92*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
13C8 FOSA	*60*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
18O2 PFHxS	*73*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
d3-NMeFOSAA	*86*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
d5-NEtFOSAA	*93*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
M2-6:2 FTS	*110*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*
M2-8:2 FTS	*110*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:41*	*1*

Client Sample ID: 6-ONE-001-001-03

Lab Sample ID: 480-149602-3

Date Collected: 02/28/19 14:40

Matrix: Water

Date Received: 03/01/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		18	2.5	ng/L		03/11/19 14:18	03/21/19 02:56	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		18	4.0	ng/L		03/11/19 14:18	03/21/19 02:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.3	ng/L		03/11/19 14:18	03/21/19 02:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	1.5	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.43	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorobutanoic acid (PFBA)	ND		1.8	0.88	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.79	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.68	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.52	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.83	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.80	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.70	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.67	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		03/11/19 14:18	03/21/19 02:56	1

Client Sample ID: 6-ONE-001-001-03

Lab Sample ID: 480-149602-3

Date Collected: 02/28/19 14:40

Matrix: Water

Date Received: 03/01/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.56	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.53	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.55	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.55	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.81	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.53	ng/L		03/11/19 14:18	03/21/19 02:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		03/11/19 14:18	03/21/19 02:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*104*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C2 PFDoA	*103*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C2 PFHxA	*91*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C2 PFUnA	*97*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C2 PFTeDA	*93*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C3 PFBS	*70*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C4 PFBA	*61*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C4 PFOA	*97*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C4 PFOS	*78*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C4 PFHpA	*100*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C5 PFNA	*104*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C5 PFPeA	*93*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
13C8 FOSA	*59*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
18O2 PFHxS	*77*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
d5-NEtFOSAA	*87*		*50 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
M2-6:2 FTS	*106*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*
M2-8:2 FTS	*119*		*25 - 150*	*03/11/19 14:18*	*03/21/19 02:56*	*1*

Client Sample ID: 6-ONE-001-001-04

Lab Sample ID: 480-149602-4

Date Collected: 02/28/19 00:00

Matrix: Water

Date Received: 03/01/19 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			03/04/19 13:09	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/04/19 13:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/04/19 13:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/04/19 13:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/04/19 13:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/04/19 13:09	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/04/19 13:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/04/19 13:09	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/04/19 13:09	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/04/19 13:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/04/19 13:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/04/19 13:09	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/04/19 13:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/04/19 13:09	1
2-Hexanone	ND		5.0	1.2	ug/L			03/04/19 13:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/04/19 13:09	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Client Sample ID: 6-ONE-001-001-04
Date Collected: 02/28/19 00:00
Date Received: 03/01/19 01:00

Lab Sample ID: 480-149602-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L			03/04/19 13:09	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/04/19 13:09	1
Benzene	ND		1.0	0.41	ug/L			03/04/19 13:09	1
Bromodichloromethane	ND	*	1.0	0.39	ug/L			03/04/19 13:09	1
Bromoform	ND	*	1.0	0.26	ug/L			03/04/19 13:09	1
Bromomethane	ND		1.0	0.69	ug/L			03/04/19 13:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/04/19 13:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/04/19 13:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/04/19 13:09	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/04/19 13:09	1
Chloroethane	ND		1.0	0.32	ug/L			03/04/19 13:09	1
Chloroform	ND		1.0	0.34	ug/L			03/04/19 13:09	1
Chloromethane	ND		1.0	0.35	ug/L			03/04/19 13:09	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/04/19 13:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/04/19 13:09	1
Dibromochloromethane	ND	*	1.0	0.32	ug/L			03/04/19 13:09	1
Dibromomethane	ND		1.0	0.41	ug/L			03/04/19 13:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/04/19 13:09	1
Iodomethane	ND		1.0	0.30	ug/L			03/04/19 13:09	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/04/19 13:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/04/19 13:09	1
o-Xylene	ND		1.0	0.76	ug/L			03/04/19 13:09	1
Styrene	ND		1.0	0.73	ug/L			03/04/19 13:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/04/19 13:09	1
Toluene	ND		1.0	0.51	ug/L			03/04/19 13:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/04/19 13:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/04/19 13:09	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/04/19 13:09	1
Trichloroethene	ND		1.0	0.46	ug/L			03/04/19 13:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/04/19 13:09	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/04/19 13:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/04/19 13:09	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/04/19 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*03/04/19 13:09*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*03/04/19 13:09*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*03/04/19 13:09*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*03/04/19 13:09*	*1*

Surrogate Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Method: 8260C - Volatile Organic Compounds by GC/MS

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-149602-1	6-ONE-001-001-01	106	109	108	100
480-149602-1 MS	6-ONE-001-001-01	100	109	106	98
480-149602-1 MSD	6-ONE-001-001-01	103	107	108	98
480-149602-4	6-ONE-001-001-04	107	106	108	97
LCS 480-461387/6	Lab Control Sample	101	108	108	101
MB 480-461387/9	Method Blank	101	107	104	95

Surrogate Legend

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

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

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

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-149602-1	6-ONE-001-001-01	101	95	80
480-149602-1 MS	6-ONE-001-001-01	97	99	48
480-149602-1 MSD	6-ONE-001-001-01	91	88	48
LCS 480-461523/2-A	Lab Control Sample	84	82	89
MB 480-461523/1-A	Method Blank	94	85	94

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHd14 = p-Terphenyl-d14

Isotope Dilution Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	DXE (15-110)							
480-149602-1	6-ONE-001-001-01	27							
480-149602-1 MS	6-ONE-001-001-01	29							
480-149602-1 MSD	6-ONE-001-001-01	29							
LCS 480-461696/2-A	Lab Control Sample	32							
MB 480-461696/1-A	Method Blank	31							

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDA (50-150)	PFDoA (50-150)	PFHxA (50-150)	PFUnA (50-150)	PFTDA (50-150)	3C3-PFBS (50-150)	PFBA (25-150)	PFOA (50-150)
480-149602-1	6-ONE-001-001-01	94	94	66	101	77	37 *	27	112
480-149602-1 MS	6-ONE-001-001-01	98	87	60	105	78	26 *	31	105
480-149602-1 MSD	6-ONE-001-001-01	110	103	69	111	82	54	26	109
480-149602-2	6-ONE-001-001-02	106	96	98	95	89	81	60	105
480-149602-3	6-ONE-001-001-03	104	103	91	97	93	70	61	97
LCS 200-140731/2-A	Lab Control Sample	111	102	94	98	96	69	71	99
MB 200-140731/1-A	Method Blank	110	95	96	100	88	71	60	107

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOS (50-150)	PFHpA (50-150)	PFNA (50-150)	PFPeA (25-150)	PFOSA (25-150)	PFHxS (50-150)	NMeFOSA (50-150)	NEtFOSA (50-150)
480-149602-1	6-ONE-001-001-01	84	84	114	55	69	50	86	89
480-149602-1 MS	6-ONE-001-001-01	81	76	96	42	65	57	74	87
480-149602-1 MSD	6-ONE-001-001-01	80	73	112	49	71	65	86	90
480-149602-2	6-ONE-001-001-02	81	107	105	92	60	73	86	93
480-149602-3	6-ONE-001-001-03	78	100	104	93	59	77	85	87
LCS 200-140731/2-A	Lab Control Sample	88	100	105	102	62	84	86	95
MB 200-140731/1-A	Method Blank	78	98	102	89	55	70	87	95

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)						
480-149602-1	6-ONE-001-001-01	120	127						
480-149602-1 MS	6-ONE-001-001-01	112	99						
480-149602-1 MSD	6-ONE-001-001-01	112	113						
480-149602-2	6-ONE-001-001-02	110	110						
480-149602-3	6-ONE-001-001-03	106	119						
LCS 200-140731/2-A	Lab Control Sample	112	134						
MB 200-140731/1-A	Method Blank	106	132						

Surrogate Legend

PFDA = 13C2 PFDA
PFDoA = 13C2 PFDoA
PFHxA = 13C2 PFHxA
PFUnA = 13C2 PFUnA
PFTDA = 13C2 PFTeDA

Isotope Dilution Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

13C3-PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
PFOA = 13C4 PFOA
PFOS = 13C4 PFOS
PFHpA = 13C4 PFHpA
PFNA = 13C5 PFNA
PFPeA = 13C5 PFPeA
PFOSA = 13C8 FOSA
PFHxS = 18O2 PFHxS
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-461387/9
Matrix: Water
Analysis Batch: 461387

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	0.35	ug/L			03/04/19 12:07	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/04/19 12:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/04/19 12:07	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/04/19 12:07	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/04/19 12:07	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/04/19 12:07	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/04/19 12:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/04/19 12:07	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/04/19 12:07	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/04/19 12:07	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/04/19 12:07	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/04/19 12:07	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/04/19 12:07	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/04/19 12:07	1
2-Hexanone	ND		5.0	1.2	ug/L			03/04/19 12:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/04/19 12:07	1
Acetone	ND		10	3.0	ug/L			03/04/19 12:07	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/04/19 12:07	1
Benzene	ND		1.0	0.41	ug/L			03/04/19 12:07	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/04/19 12:07	1
Bromoform	ND		1.0	0.26	ug/L			03/04/19 12:07	1
Bromomethane	ND		1.0	0.69	ug/L			03/04/19 12:07	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/04/19 12:07	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/04/19 12:07	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/04/19 12:07	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/04/19 12:07	1
Chloroethane	ND		1.0	0.32	ug/L			03/04/19 12:07	1
Chloroform	ND		1.0	0.34	ug/L			03/04/19 12:07	1
Chloromethane	ND		1.0	0.35	ug/L			03/04/19 12:07	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/04/19 12:07	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/04/19 12:07	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/04/19 12:07	1
Dibromomethane	ND		1.0	0.41	ug/L			03/04/19 12:07	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/04/19 12:07	1
Iodomethane	ND		1.0	0.30	ug/L			03/04/19 12:07	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/04/19 12:07	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/04/19 12:07	1
o-Xylene	ND		1.0	0.76	ug/L			03/04/19 12:07	1
Styrene	ND		1.0	0.73	ug/L			03/04/19 12:07	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/04/19 12:07	1
Toluene	ND		1.0	0.51	ug/L			03/04/19 12:07	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/04/19 12:07	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/04/19 12:07	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/04/19 12:07	1
Trichloroethene	ND		1.0	0.46	ug/L			03/04/19 12:07	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/04/19 12:07	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/04/19 12:07	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/04/19 12:07	1

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

Lab Sample ID: MB 480-461387/9
Matrix: Water
Analysis Batch: 461387

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		2.0	0.66	ug/L			03/04/19 12:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*03/04/19 12:07*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*03/04/19 12:07*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*03/04/19 12:07*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*03/04/19 12:07*	*1*

Lab Sample ID: LCS 480-461387/6
Matrix: Water
Analysis Batch: 461387

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	29.9		ug/L		120	80 - 120
1,1,1-Trichloroethane	25.0	28.6		ug/L		114	73 - 126
1,1,2,2-Tetrachloroethane	25.0	25.6		ug/L		102	76 - 120
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	76 - 122
1,1-Dichloroethane	25.0	25.5		ug/L		102	77 - 120
1,1-Dichloroethene	25.0	28.3		ug/L		113	66 - 127
1,2,3-Trichloropropane	25.0	26.5		ug/L		106	68 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.7		ug/L		103	56 - 134
1,2-Dibromoethane	25.0	29.0		ug/L		116	77 - 120
1,2-Dichlorobenzene	25.0	25.2		ug/L		101	80 - 124
1,2-Dichloroethane	25.0	25.2		ug/L		101	75 - 120
1,2-Dichloropropane	25.0	27.3		ug/L		109	76 - 120
1,4-Dichlorobenzene	25.0	26.4		ug/L		106	80 - 120
2-Butanone (MEK)	125	143		ug/L		115	57 - 140
2-Hexanone	125	145		ug/L		116	65 - 127
4-Methyl-2-pentanone (MIBK)	125	125		ug/L		100	71 - 125
Acetone	125	140		ug/L		112	56 - 142
Acrylonitrile	250	255		ug/L		102	63 - 125
Benzene	25.0	27.7		ug/L		111	71 - 124
Bromodichloromethane	25.0	31.0	*	ug/L		124	80 - 122
Bromoform	25.0	34.1	*	ug/L		136	61 - 132
Bromomethane	25.0	28.5		ug/L		114	55 - 144
Carbon disulfide	25.0	25.5		ug/L		102	59 - 134
Carbon tetrachloride	25.0	31.4		ug/L		126	72 - 134
Chlorobenzene	25.0	26.6		ug/L		107	80 - 120
Chlorobromomethane	25.0	26.7		ug/L		107	72 - 130
Chloroethane	25.0	27.6		ug/L		110	69 - 136
Chloroform	25.0	25.9		ug/L		103	73 - 127
Chloromethane	25.0	27.3		ug/L		109	68 - 124
cis-1,2-Dichloroethene	25.0	25.7		ug/L		103	74 - 124
cis-1,3-Dichloropropene	25.0	31.1		ug/L		124	74 - 124
Dibromochloromethane	25.0	32.9	*	ug/L		132	75 - 125
Dibromomethane	25.0	27.6		ug/L		110	76 - 127
Ethylbenzene	25.0	25.9		ug/L		104	77 - 123
Iodomethane	25.0	27.3		ug/L		109	78 - 123

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

Lab Sample ID: LCS 480-461387/6
Matrix: Water
Analysis Batch: 461387

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m,p-Xylene	25.0	26.3		ug/L		105	76 - 122
Methylene Chloride	25.0	25.9		ug/L		104	75 - 124
o-Xylene	25.0	25.3		ug/L		101	76 - 122
Styrene	25.0	27.3		ug/L		109	80 - 120
Tetrachloroethene	25.0	29.9		ug/L		119	74 - 122
Toluene	25.0	26.5		ug/L		106	80 - 122
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	73 - 127
trans-1,3-Dichloropropene	25.0	30.0		ug/L		120	80 - 120
trans-1,4-Dichloro-2-butene	25.0	27.4		ug/L		110	41 - 131
Trichloroethene	25.0	27.8		ug/L		111	74 - 123
Trichlorofluoromethane	25.0	28.0		ug/L		112	62 - 150
Vinyl acetate	50.0	66.6		ug/L		133	50 - 144
Vinyl chloride	25.0	29.0		ug/L		116	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*
Dibromofluoromethane (Surr)	*108*		*75 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461387

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND	F1	25.0	32.0	F1	ug/L		128	80 - 120
1,1,1-Trichloroethane	ND	F1	25.0	32.6	F1	ug/L		130	73 - 126
1,1,2,2-Tetrachloroethane	ND		25.0	26.5		ug/L		106	76 - 120
1,1,2-Trichloroethane	ND		25.0	27.6		ug/L		110	76 - 122
1,1-Dichloroethane	ND		25.0	28.8		ug/L		115	77 - 120
1,1-Dichloroethene	ND	F1	25.0	33.3	F1	ug/L		133	66 - 127
1,2,3-Trichloropropane	ND		25.0	26.9		ug/L		108	68 - 122
1,2-Dibromo-3-Chloropropane	ND		25.0	24.8		ug/L		99	56 - 134
1,2-Dibromoethane	ND	F1	25.0	30.8	F1	ug/L		123	77 - 120
1,2-Dichlorobenzene	ND		25.0	27.2		ug/L		109	80 - 124
1,2-Dichloroethane	ND		25.0	26.8		ug/L		107	75 - 120
1,2-Dichloropropane	ND		25.0	29.2		ug/L		117	76 - 120
1,4-Dichlorobenzene	ND		25.0	28.0		ug/L		112	78 - 124
2-Butanone (MEK)	ND		125	130		ug/L		104	57 - 140
2-Hexanone	ND		125	140		ug/L		112	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		125	125		ug/L		100	71 - 125
Acetone	ND		125	119		ug/L		95	56 - 142
Acrylonitrile	ND		250	252		ug/L		101	63 - 125
Benzene	ND	F1	25.0	31.5	F1	ug/L		126	71 - 124
Bromodichloromethane	ND	* F1	25.0	32.8	F1	ug/L		131	80 - 122
Bromoform	ND	* F1	25.0	35.1	F1	ug/L		140	61 - 132
Bromomethane	ND		25.0	31.0		ug/L		124	55 - 144
Carbon disulfide	ND		25.0	29.3		ug/L		117	59 - 134

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

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461387

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	ND	F1	25.0	37.5	F1	ug/L		150	72 - 134
Chlorobenzene	ND		25.0	28.8		ug/L		115	80 - 120
Chlorobromomethane	ND		25.0	29.8		ug/L		119	72 - 130
Chloroethane	ND		25.0	29.5		ug/L		118	69 - 136
Chloroform	ND		25.0	28.6		ug/L		114	73 - 127
Chloromethane	ND		25.0	28.4		ug/L		113	68 - 124
cis-1,2-Dichloroethene	ND		25.0	28.8		ug/L		115	74 - 124
cis-1,3-Dichloropropene	ND	F1	25.0	31.9	F1	ug/L		127	74 - 124
Dibromochloromethane	ND	* F1	25.0	33.6	F1	ug/L		134	75 - 125
Dibromomethane	ND		25.0	28.9		ug/L		115	76 - 127
Ethylbenzene	ND		25.0	28.7		ug/L		115	77 - 123
Iodomethane	ND		25.0	30.7		ug/L		123	78 - 123
m,p-Xylene	ND		25.0	29.8		ug/L		119	76 - 122
Methylene Chloride	ND		25.0	27.8		ug/L		111	75 - 124
o-Xylene	ND		25.0	26.8		ug/L		107	76 - 122
Styrene	ND		25.0	29.1		ug/L		117	80 - 120
Tetrachloroethene	ND	F1	25.0	33.6	F1	ug/L		134	74 - 122
Toluene	ND		25.0	28.9		ug/L		116	80 - 122
trans-1,2-Dichloroethene	ND		25.0	31.1		ug/L		124	73 - 127
trans-1,3-Dichloropropene	ND	F1	25.0	30.6	F1	ug/L		122	80 - 120
trans-1,4-Dichloro-2-butene	ND		25.0	22.5		ug/L		90	41 - 131
Trichloroethene	ND	F1	25.0	31.4	F1	ug/L		125	74 - 123
Trichlorofluoromethane	ND		25.0	31.9		ug/L		127	62 - 150
Vinyl acetate	ND		50.0	67.2		ug/L		134	50 - 144
Vinyl chloride	ND		25.0	31.8		ug/L		127	65 - 133

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*
Dibromofluoromethane (Surr)	*106*		*75 - 123*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 461387

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND	F1	25.0	31.7	F1	ug/L		127	80 - 120	1	20
1,1,1-Trichloroethane	ND	F1	25.0	32.1	F1	ug/L		128	73 - 126	1	15
1,1,2,2-Tetrachloroethane	ND		25.0	26.3		ug/L		105	76 - 120	1	15
1,1,2-Trichloroethane	ND		25.0	27.0		ug/L		108	76 - 122	2	15
1,1-Dichloroethane	ND		25.0	27.9		ug/L		111	77 - 120	3	20
1,1-Dichloroethene	ND	F1	25.0	33.5	F1	ug/L		134	66 - 127	1	16
1,2,3-Trichloropropane	ND		25.0	26.9		ug/L		108	68 - 122	0	14
1,2-Dibromo-3-Chloropropane	ND		25.0	25.6		ug/L		102	56 - 134	3	15
1,2-Dibromoethane	ND	F1	25.0	30.0		ug/L		120	77 - 120	2	15
1,2-Dichlorobenzene	ND		25.0	26.4		ug/L		106	80 - 124	3	20
1,2-Dichloroethane	ND		25.0	26.2		ug/L		105	75 - 120	2	20

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

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 461387

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloropropane	ND		25.0	29.1		ug/L		116	76 - 120	0	20
1,4-Dichlorobenzene	ND		25.0	27.1		ug/L		108	78 - 124	3	20
2-Butanone (MEK)	ND		125	133		ug/L		107	57 - 140	2	20
2-Hexanone	ND		125	141		ug/L		113	65 - 127	1	15
4-Methyl-2-pentanone (MIBK)	ND		125	126		ug/L		101	71 - 125	0	35
Acetone	ND		125	114		ug/L		91	56 - 142	4	15
Acrylonitrile	ND		250	259		ug/L		103	63 - 125	3	20
Benzene	ND	F1	25.0	30.6		ug/L		122	71 - 124	3	13
Bromodichloromethane	ND	* F1	25.0	32.5	F1	ug/L		130	80 - 122	1	15
Bromoform	ND	* F1	25.0	36.0	F1	ug/L		144	61 - 132	3	15
Bromomethane	ND		25.0	30.3		ug/L		121	55 - 144	3	15
Carbon disulfide	ND		25.0	29.5		ug/L		118	59 - 134	0	15
Carbon tetrachloride	ND	F1	25.0	36.0	F1	ug/L		144	72 - 134	4	15
Chlorobenzene	ND		25.0	28.5		ug/L		114	80 - 120	1	25
Chlorobromomethane	ND		25.0	28.9		ug/L		116	72 - 130	3	15
Chloroethane	ND		25.0	30.1		ug/L		120	69 - 136	2	15
Chloroform	ND		25.0	28.3		ug/L		113	73 - 127	1	20
Chloromethane	ND		25.0	27.8		ug/L		111	68 - 124	2	15
cis-1,2-Dichloroethene	ND		25.0	28.6		ug/L		114	74 - 124	1	15
cis-1,3-Dichloropropene	ND	F1	25.0	31.1	F1	ug/L		125	74 - 124	2	15
Dibromochloromethane	ND	* F1	25.0	33.6	F1	ug/L		134	75 - 125	0	15
Dibromomethane	ND		25.0	28.8		ug/L		115	76 - 127	0	15
Ethylbenzene	ND		25.0	28.4		ug/L		114	77 - 123	1	15
Iodomethane	ND		25.0	30.4		ug/L		122	78 - 123	1	20
m,p-Xylene	ND		25.0	28.3		ug/L		113	76 - 122	5	16
Methylene Chloride	ND		25.0	27.1		ug/L		108	75 - 124	3	15
o-Xylene	ND		25.0	26.5		ug/L		106	76 - 122	1	16
Styrene	ND		25.0	28.8		ug/L		115	80 - 120	1	20
Tetrachloroethene	ND	F1	25.0	33.1	F1	ug/L		132	74 - 122	1	20
Toluene	ND		25.0	28.2		ug/L		113	80 - 122	3	15
trans-1,2-Dichloroethene	ND		25.0	30.8		ug/L		123	73 - 127	1	20
trans-1,3-Dichloropropene	ND	F1	25.0	30.1		ug/L		120	80 - 120	2	15
trans-1,4-Dichloro-2-butene	ND		25.0	22.0		ug/L		88	41 - 131	2	20
Trichloroethene	ND	F1	25.0	30.4		ug/L		122	74 - 123	3	16
Trichlorofluoromethane	ND		25.0	30.4		ug/L		121	62 - 150	5	20
Vinyl acetate	ND		50.0	67.0		ug/L		134	50 - 144	0	23
Vinyl chloride	ND		25.0	31.8		ug/L		127	65 - 133	0	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*
Dibromofluoromethane (Surr)	*108*		*75 - 123*
Toluene-d8 (Surr)	*98*		*80 - 120*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-461696/1-A
Matrix: Water
Analysis Batch: 462442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		03/06/19 07:43	03/11/19 21:20	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*31*		*15 - 110*	*03/06/19 07:43*	*03/11/19 21:20*	*1*

Lab Sample ID: LCS 480-461696/2-A
Matrix: Water
Analysis Batch: 462442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461696

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.00	1.15		ug/L		115	40 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*32*		*15 - 110*

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 462442

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461696

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	0.10	J	0.962	1.19	E	ug/L		113	40 - 140		

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Dioxane-d8	*29*		*15 - 110*

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 462442

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461696

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	0.10	J	0.952	1.17	E	ug/L		112	40 - 140	1	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Dioxane-d8	*29*		*15 - 110*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Lab Sample ID: MB 480-461523/1-A
Matrix: Water
Analysis Batch: 462009

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		03/05/19 07:44	03/08/19 03:55	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/05/19 07:44	03/08/19 03:55	1
Anthracene	ND		0.50	0.39	ug/L		03/05/19 07:44	03/08/19 03:55	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/05/19 07:44	03/08/19 03:55	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/05/19 07:44	03/08/19 03:55	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/05/19 07:44	03/08/19 03:55	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/05/19 07:44	03/08/19 03:55	1

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: MB 480-461523/1-A
Matrix: Water
Analysis Batch: 462009

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/05/19 07:44	03/08/19 03:55	1
Chrysene	ND		0.50	0.32	ug/L		03/05/19 07:44	03/08/19 03:55	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/05/19 07:44	03/08/19 03:55	1
Fluoranthene	ND		0.50	0.36	ug/L		03/05/19 07:44	03/08/19 03:55	1
Fluorene	ND		0.50	0.37	ug/L		03/05/19 07:44	03/08/19 03:55	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/05/19 07:44	03/08/19 03:55	1
Naphthalene	ND		0.50	0.42	ug/L		03/05/19 07:44	03/08/19 03:55	1
Phenanthrene	ND		0.50	0.38	ug/L		03/05/19 07:44	03/08/19 03:55	1
Pyrene	ND		0.50	0.36	ug/L		03/05/19 07:44	03/08/19 03:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*48 - 120*	*03/05/19 07:44*	*03/08/19 03:55*	*1*
Nitrobenzene-d5	*85*		*46 - 120*	*03/05/19 07:44*	*03/08/19 03:55*	*1*
p-Terphenyl-d14	*94*		*24 - 136*	*03/05/19 07:44*	*03/08/19 03:55*	*1*

Lab Sample ID: LCS 480-461523/2-A
Matrix: Water
Analysis Batch: 462009

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	32.0	26.6		ug/L		83	60 - 120
Acenaphthylene	32.0	27.5		ug/L		86	63 - 120
Anthracene	32.0	26.8		ug/L		84	69 - 131
Benzo[a]anthracene	32.0	25.6		ug/L		80	62 - 142
Benzo[a]pyrene	32.0	27.4		ug/L		86	46 - 156
Benzo[b]fluoranthene	32.0	27.5		ug/L		86	50 - 149
Benzo[g,h,i]perylene	32.0	26.9		ug/L		84	34 - 189
Benzo[k]fluoranthene	32.0	28.1		ug/L		88	47 - 147
Chrysene	32.0	28.2		ug/L		88	69 - 140
Dibenz(a,h)anthracene	32.0	28.1		ug/L		88	35 - 176
Fluoranthene	32.0	26.4		ug/L		82	67 - 133
Fluorene	32.0	27.2		ug/L		85	66 - 129
Indeno[1,2,3-cd]pyrene	32.0	27.5		ug/L		86	57 - 161
Naphthalene	32.0	24.6		ug/L		77	48 - 120
Phenanthrene	32.0	26.4		ug/L		83	67 - 130
Pyrene	32.0	28.2		ug/L		88	58 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*48 - 120*
Nitrobenzene-d5	*82*		*46 - 120*
p-Terphenyl-d14	*89*		*24 - 136*

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 462009

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		32.0	30.9		ug/L		97	60 - 120

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 462009

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	ND		32.0	31.8		ug/L		100	63 - 120
Anthracene	ND		32.0	29.2		ug/L		91	69 - 131
Benzo[a]anthracene	ND		32.0	19.8		ug/L		62	62 - 142
Benzo[a]pyrene	ND		32.0	17.8		ug/L		55	46 - 156
Benzo[b]fluoranthene	ND		32.0	18.7		ug/L		58	50 - 149
Benzo[g,h,i]perylene	ND		32.0	16.8		ug/L		52	34 - 189
Benzo[k]fluoranthene	ND		32.0	18.3		ug/L		57	47 - 147
Chrysene	ND	F1	32.0	21.3	F1	ug/L		67	69 - 140
Dibenz(a,h)anthracene	ND		32.0	17.3		ug/L		54	35 - 176
Fluoranthene	ND		32.0	26.5		ug/L		83	67 - 133
Fluorene	ND		32.0	31.1		ug/L		97	66 - 129
Indeno[1,2,3-cd]pyrene	ND	F1	32.0	17.1	F1	ug/L		53	57 - 161
Naphthalene	ND		32.0	29.0		ug/L		91	48 - 120
Phenanthrene	ND		32.0	29.0		ug/L		91	67 - 130
Pyrene	ND		32.0	28.5		ug/L		89	58 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*97*		*48 - 120*
Nitrobenzene-d5	*99*		*46 - 120*
p-Terphenyl-d14	*48*		*24 - 136*

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 462009

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		32.0	29.0		ug/L		91	60 - 120	6	24
Acenaphthylene	ND		32.0	30.0		ug/L		94	63 - 120	6	18
Anthracene	ND		32.0	28.6		ug/L		90	69 - 131	2	15
Benzo[a]anthracene	ND		32.0	19.8		ug/L		62	62 - 142	0	15
Benzo[a]pyrene	ND		32.0	17.6		ug/L		55	46 - 156	1	15
Benzo[b]fluoranthene	ND		32.0	17.7		ug/L		55	50 - 149	6	15
Benzo[g,h,i]perylene	ND		32.0	15.6		ug/L		49	34 - 189	7	15
Benzo[k]fluoranthene	ND		32.0	17.8		ug/L		56	47 - 147	3	22
Chrysene	ND	F1	32.0	21.0	F1	ug/L		66	69 - 140	1	15
Dibenz(a,h)anthracene	ND		32.0	16.3		ug/L		51	35 - 176	6	15
Fluoranthene	ND		32.0	26.0		ug/L		81	67 - 133	2	15
Fluorene	ND		32.0	29.6		ug/L		92	66 - 129	5	15
Indeno[1,2,3-cd]pyrene	ND	F1	32.0	16.2	F1	ug/L		51	57 - 161	6	15
Naphthalene	ND		32.0	27.3		ug/L		85	48 - 120	6	29
Phenanthrene	ND		32.0	28.3		ug/L		88	67 - 130	2	15
Pyrene	ND		32.0	28.3		ug/L		88	58 - 136	1	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*91*		*48 - 120*
Nitrobenzene-d5	*88*		*46 - 120*
p-Terphenyl-d14	*48*		*24 - 136*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-140731/1-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		20	2.9	ng/L		03/11/19 14:18	03/21/19 01:21	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		20	4.6	ng/L		03/11/19 14:18	03/21/19 01:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5	ng/L		03/11/19 14:18	03/21/19 01:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.49	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorobutanoic acid (PFBA)	ND		2.0	1.0	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.77	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.64	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.61	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.63	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53	ng/L		03/11/19 14:18	03/21/19 01:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*110*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFHxA	*96*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFUnA	*100*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFTeDA	*88*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C3 PFBS	*71*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C4 PFBA	*60*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C4 PFOA	*107*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C4 PFOS	*78*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C4 PFHpA	*98*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C5 PFNA	*102*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C5 PFPeA	*89*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C8 FOSA	*55*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
18O2 PFHxS	*70*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
M2-6:2 FTS	*106*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
M2-8:2 FTS	*132*		*25 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 200-140731/2-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	40.7		ng/L		106	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	38.2		ng/L		101	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	35.5		ng/L		89	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.0		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	41.9		ng/L		118	70 - 130
Perfluorobutanoic acid (PFBA)	40.0	40.9		ng/L		102	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	32.3		ng/L		84	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	36.9		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	37.4		ng/L		93	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	33.7		ng/L		88	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	35.7		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.2		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	40.0	35.1		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	40.0	36.8		ng/L		92	70 - 130
Perfluorooctanesulfonamide (PFOSA)	40.0	34.3		ng/L		86	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	34.9		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	39.0		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	32.2		ng/L		81	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	38.2		ng/L		96	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	33.9		ng/L		85	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	39.5		ng/L		99	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*111*		*50 - 150*
13C2 PFDoA	*102*		*50 - 150*
13C2 PFHxA	*94*		*50 - 150*
13C2 PFUnA	*98*		*50 - 150*
13C2 PFTeDA	*96*		*50 - 150*
13C3 PFBS	*69*		*50 - 150*
13C4 PFBA	*71*		*25 - 150*
13C4 PFOA	*99*		*50 - 150*
13C4 PFOS	*88*		*50 - 150*
13C4 PFHpA	*100*		*50 - 150*
13C5 PFNA	*105*		*50 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C8 FOSA	*62*		*25 - 150*
18O2 PFHxS	*84*		*50 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 200-140731/2-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140731

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d3-NMeFOSAA	86		50 - 150
d5-NEtFOSAA	95		50 - 150
M2-6:2 FTS	112		25 - 150
M2-8:2 FTS	134		25 - 150

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 141014

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 140731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		33.2	32.4	J	ng/L		98	40 - 160
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		32.8	33.4	J	ng/L		102	40 - 160
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		34.6	28.6	J	ng/L		83	40 - 160
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.6	32.1	J	ng/L		93	40 - 160
Perfluorobutanesulfonic acid (PFBS)	ND		30.6	37.2		ng/L		121	40 - 160
Perfluorobutanoic acid (PFBA)	ND		34.6	27.6		ng/L		80	40 - 160
Perfluorodecanesulfonic acid (PFDS)	ND	F2	33.4	18.4		ng/L		55	40 - 160
Perfluorodecanoic acid (PFDA)	ND		34.6	26.9		ng/L		78	40 - 160
Perfluorododecanoic acid (PFDoA)	ND		34.6	30.1		ng/L		87	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	ND		33.0	26.1		ng/L		79	40 - 160
Perfluoroheptanoic acid (PFHpA)	ND	F2	34.6	31.2		ng/L		90	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	12	F2	31.5	43.7		ng/L		100	40 - 160
Perfluorohexanoic acid (PFHxA)	5.1	J	34.6	33.2		ng/L		81	40 - 160
Perfluorononanoic acid (PFNA)	ND		34.6	27.5		ng/L		79	40 - 160
Perfluorooctanesulfonamide (PFOSA)	ND		34.6	30.0		ng/L		87	40 - 160
Perfluorooctanesulfonic acid (PFOS)	38		32.1	59.1		ng/L		66	40 - 160
Perfluorooctanoic acid (PFOA)	30		34.6	54.8		ng/L		72	40 - 160
Perfluoropentanoic acid (PFPeA)	ND		34.6	24.4		ng/L		71	40 - 160
Perfluorotetradecanoic acid (PFTeA)	ND		34.6	31.7		ng/L		91	40 - 160
Perfluorotridecanoic acid (PFTriA)	ND		34.6	28.9		ng/L		83	40 - 160
Perfluoroundecanoic acid (PFUnA)	ND		34.6	24.1		ng/L		70	40 - 160

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2 PFDA	98		50 - 150
13C2 PFDoA	87		50 - 150
13C2 PFHxA	60		50 - 150
13C2 PFUnA	105		50 - 150
13C2 PFTeDA	78		50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 141014

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 140731

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 PFBS	26	*	50 - 150
13C4 PFBA	31		25 - 150
13C4 PFOA	105		50 - 150
13C4 PFOS	81		50 - 150
13C4 PFHpA	76		50 - 150
13C5 PFNA	96		50 - 150
13C5 PFPeA	42		25 - 150
13C8 FOSA	65		25 - 150
18O2 PFHxS	57		50 - 150
d3-NMeFOSAA	74		50 - 150
d5-NEtFOSAA	87		50 - 150
M2-6:2 FTS	112		25 - 150
M2-8:2 FTS	99		25 - 150

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 141014

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 140731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		33.4	35.7	J	ng/L		107	40 - 160	10	30
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		33.0	40.1	J	ng/L		121	40 - 160	18	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		34.8	28.0	J	ng/L		80	40 - 160	2	20
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.8	26.5	J	ng/L		76	40 - 160	19	20
Perfluorobutanesulfonic acid (PFBS)	ND		30.8	38.6		ng/L		125	40 - 160	4	20
Perfluorobutanoic acid (PFBA)	ND		34.8	28.0		ng/L		80	40 - 160	2	30
Perfluorodecanesulfonic acid (PFDS)	ND	F2	33.6	25.2	F2	ng/L		75	40 - 160	31	30
Perfluorodecanoic acid (PFDA)	ND		34.8	24.5		ng/L		70	40 - 160	10	20
Perfluorododecanoic acid (PFDoA)	ND		34.8	27.1		ng/L		78	40 - 160	10	20
Perfluoroheptanesulfonic Acid (PFHpS)	ND		33.2	29.2		ng/L		88	40 - 160	11	30
Perfluoroheptanoic acid (PFHpA)	ND	F2	34.8	45.0	F2	ng/L		129	40 - 160	36	20
Perfluorohexanesulfonic acid (PFHxS)	12	F2	31.7	35.3	F2	ng/L		73	40 - 160	21	20
Perfluorohexanoic acid (PFHxA)	5.1	J	34.8	34.3		ng/L		84	40 - 160	3	20
Perfluorononanoic acid (PFNA)	ND		34.8	27.8		ng/L		80	40 - 160	1	20
Perfluorooctanesulfonamide (PFOSA)	ND		34.8	28.9		ng/L		83	40 - 160	4	30
Perfluorooctanesulfonic acid (PFOS)	38		32.3	67.1		ng/L		91	40 - 160	13	20
Perfluorooctanoic acid (PFOA)	30		34.8	56.9		ng/L		78	40 - 160	4	20
Perfluoropentanoic acid (PFPeA)	ND		34.8	26.4		ng/L		76	40 - 160	8	30
Perfluorotetradecanoic acid (PFTeA)	ND		34.8	32.5		ng/L		93	40 - 160	3	20
Perfluorotridecanoic acid (PFTriA)	ND		34.8	23.8		ng/L		68	40 - 160	19	20

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 141014

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 140731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)	ND		34.8	25.4		ng/L		73	40 - 160	5	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFDA	*110*		*50 - 150*
13C2 PFDoA	*103*		*50 - 150*
13C2 PFHxA	*69*		*50 - 150*
13C2 PFUnA	*111*		*50 - 150*
13C2 PFTeDA	*82*		*50 - 150*
13C3 PFBS	*54*		*50 - 150*
13C4 PFBA	*26*		*25 - 150*
13C4 PFOA	*109*		*50 - 150*
13C4 PFOS	*80*		*50 - 150*
13C4 PFHpA	*73*		*50 - 150*
13C5 PFNA	*112*		*50 - 150*
13C5 PFPeA	*49*		*25 - 150*
13C8 FOSA	*71*		*25 - 150*
18O2 PFHxS	*65*		*50 - 150*
d3-NMeFOSAA	*86*		*50 - 150*
d5-NEtFOSAA	*90*		*50 - 150*
M2-6:2 FTS	*112*		*25 - 150*
M2-8:2 FTS	*113*		*25 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-461167/1-A
Matrix: Water
Analysis Batch: 461723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461167

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/02/19 07:30	03/05/19 11:56	1
Antimony	ND		0.020	0.0068	mg/L		03/02/19 07:30	03/05/19 11:56	1
Arsenic	ND		0.015	0.0056	mg/L		03/02/19 07:30	03/05/19 11:56	1
Barium	ND		0.0020	0.00070	mg/L		03/02/19 07:30	03/05/19 11:56	1
Beryllium	ND		0.0020	0.00030	mg/L		03/02/19 07:30	03/05/19 11:56	1
Boron	ND		0.020	0.0040	mg/L		03/02/19 07:30	03/05/19 11:56	1
Cadmium	ND		0.0020	0.00050	mg/L		03/02/19 07:30	03/05/19 11:56	1
Calcium	ND		0.50	0.10	mg/L		03/02/19 07:30	03/05/19 11:56	1
Chromium	ND		0.0040	0.0010	mg/L		03/02/19 07:30	03/05/19 11:56	1
Cobalt	ND		0.0040	0.00063	mg/L		03/02/19 07:30	03/05/19 11:56	1
Copper	ND		0.010	0.0016	mg/L		03/02/19 07:30	03/05/19 11:56	1
Iron	ND		0.050	0.019	mg/L		03/02/19 07:30	03/05/19 11:56	1
Lead	ND		0.010	0.0030	mg/L		03/02/19 07:30	03/05/19 11:56	1
Magnesium	ND		0.20	0.043	mg/L		03/02/19 07:30	03/05/19 11:56	1
Manganese	ND		0.0030	0.00040	mg/L		03/02/19 07:30	03/05/19 11:56	1
Nickel	ND		0.010	0.0013	mg/L		03/02/19 07:30	03/05/19 11:56	1
Potassium	ND		0.50	0.10	mg/L		03/02/19 07:30	03/05/19 11:56	1
Selenium	ND		0.025	0.0087	mg/L		03/02/19 07:30	03/05/19 11:56	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-461167/1-A
Matrix: Water
Analysis Batch: 461723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461167

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.0060	0.0017	mg/L		03/02/19 07:30	03/05/19 11:56	1
Sodium	0.413	J	1.0	0.32	mg/L		03/02/19 07:30	03/05/19 11:56	1
Thallium	ND		0.020	0.010	mg/L		03/02/19 07:30	03/05/19 11:56	1
Vanadium	ND		0.0050	0.0015	mg/L		03/02/19 07:30	03/05/19 11:56	1
Zinc	0.00241	J	0.010	0.0015	mg/L		03/02/19 07:30	03/05/19 11:56	1

Lab Sample ID: LCS 480-461167/2-A
Matrix: Water
Analysis Batch: 461723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461167

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	9.51		mg/L		95	80 - 120
Antimony	0.200	0.191		mg/L		95	80 - 120
Arsenic	0.200	0.199		mg/L		100	80 - 120
Barium	0.200	0.191		mg/L		95	80 - 120
Beryllium	0.200	0.199		mg/L		100	80 - 120
Boron	0.200	0.194		mg/L		97	80 - 120
Cadmium	0.200	0.196		mg/L		98	80 - 120
Calcium	10.0	9.97		mg/L		100	80 - 120
Chromium	0.200	0.199		mg/L		99	80 - 120
Cobalt	0.200	0.190		mg/L		95	80 - 120
Copper	0.200	0.187		mg/L		93	80 - 120
Iron	10.0	9.77		mg/L		98	80 - 120
Lead	0.200	0.195		mg/L		97	80 - 120
Magnesium	10.0	9.91		mg/L		99	80 - 120
Manganese	0.200	0.193		mg/L		96	80 - 120
Nickel	0.200	0.197		mg/L		98	80 - 120
Potassium	10.0	9.49		mg/L		95	80 - 120
Selenium	0.200	0.198		mg/L		99	80 - 120
Silver	0.0500	0.0480		mg/L		96	80 - 120
Sodium	10.0	9.27		mg/L		93	80 - 120
Thallium	0.200	0.193		mg/L		96	80 - 120
Vanadium	0.200	0.192		mg/L		96	80 - 120
Zinc	0.200	0.209		mg/L		104	80 - 120

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461723

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461167

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	ND		10.0	9.86		mg/L		99	75 - 125
Antimony	ND		0.200	0.200		mg/L		100	75 - 125
Arsenic	ND		0.200	0.212		mg/L		106	75 - 125
Barium	0.22		0.200	0.416		mg/L		97	75 - 125
Beryllium	ND		0.200	0.203		mg/L		101	75 - 125
Boron	0.39		0.200	0.589		mg/L		99	75 - 125
Cadmium	ND		0.200	0.205		mg/L		102	75 - 125
Calcium	270		10.0	277.5	4	mg/L		73	75 - 125
Chromium	ND		0.200	0.196		mg/L		98	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461723

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461167

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.0012	J	0.200	0.199		mg/L		99	75 - 125
Copper	0.0025	J	0.200	0.194		mg/L		96	75 - 125
Iron	11.5		10.0	21.15		mg/L		97	75 - 125
Lead	0.0034	J	0.200	0.206		mg/L		101	75 - 125
Magnesium	31.0		10.0	40.61		mg/L		96	75 - 125
Manganese	1.3		0.200	1.46	4	mg/L		89	75 - 125
Nickel	0.0074	J	0.200	0.208		mg/L		101	75 - 125
Potassium	36.3		10.0	46.07		mg/L		98	75 - 125
Selenium	ND		0.200	0.205		mg/L		103	75 - 125
Silver	ND		0.0500	0.0489		mg/L		98	75 - 125
Sodium	32.1	B	10.0	41.68		mg/L		96	75 - 125
Thallium	ND		0.200	0.197		mg/L		99	75 - 125
Vanadium	ND		0.200	0.196		mg/L		98	75 - 125
Zinc	0.014	B	0.200	0.213		mg/L		99	75 - 125

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 461723

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461167

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	ND		10.0	9.82		mg/L		98	75 - 125	0	20
Antimony	ND		0.200	0.195		mg/L		98	75 - 125	2	20
Arsenic	ND		0.200	0.210		mg/L		105	75 - 125	1	20
Barium	0.22		0.200	0.416		mg/L		97	75 - 125	0	20
Beryllium	ND		0.200	0.202		mg/L		101	75 - 125	1	20
Boron	0.39		0.200	0.587		mg/L		98	75 - 125	0	20
Cadmium	ND		0.200	0.200		mg/L		100	75 - 125	2	20
Calcium	270		10.0	280.3	4	mg/L		101	75 - 125	1	20
Chromium	ND		0.200	0.195		mg/L		97	75 - 125	1	20
Cobalt	0.0012	J	0.200	0.196		mg/L		97	75 - 125	2	20
Copper	0.0025	J	0.200	0.190		mg/L		94	75 - 125	2	20
Iron	11.5		10.0	21.17		mg/L		97	75 - 125	0	20
Lead	0.0034	J	0.200	0.201		mg/L		99	75 - 125	2	20
Magnesium	31.0		10.0	41.03		mg/L		100	75 - 125	1	20
Manganese	1.3		0.200	1.47	4	mg/L		97	75 - 125	1	20
Nickel	0.0074	J	0.200	0.208		mg/L		100	75 - 125	0	20
Potassium	36.3		10.0	46.41		mg/L		101	75 - 125	1	20
Selenium	ND		0.200	0.204		mg/L		102	75 - 125	1	20
Silver	ND		0.0500	0.0488		mg/L		98	75 - 125	0	20
Sodium	32.1	B	10.0	41.80		mg/L		97	75 - 125	0	20
Thallium	ND		0.200	0.196		mg/L		98	75 - 125	0	20
Vanadium	ND		0.200	0.196		mg/L		98	75 - 125	0	20
Zinc	0.014	B	0.200	0.214		mg/L		100	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-461182/1-A
Matrix: Water
Analysis Batch: 461252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461182

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/01/19 11:13	03/01/19 13:54	1

Lab Sample ID: LCS 480-461182/2-A
Matrix: Water
Analysis Batch: 461252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461182

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00732		mg/L		110	80 - 120

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461252

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461182

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00733		mg/L		110	80 - 120

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 461252

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA
Prep Batch: 461182

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00742		mg/L		111	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-461409/4
Matrix: Water
Analysis Batch: 461409

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			03/04/19 11:47	1
Chloride	ND		0.50	0.28	mg/L			03/04/19 11:47	1
Sulfate	ND		2.0	0.35	mg/L			03/04/19 11:47	1

Lab Sample ID: LCS 480-461409/3
Matrix: Water
Analysis Batch: 461409

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.84		mg/L		97	90 - 110
Chloride	50.0	48.14		mg/L		96	90 - 110
Sulfate	50.0	48.51		mg/L		97	90 - 110

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461409

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.14	J	5.00	5.15		mg/L		100	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461409

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.5		50.0	68.93		mg/L		97	81 - 120
Sulfate	23.0		50.0	71.08		mg/L		96	80 - 120

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 461409

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.14	J	5.00	5.12		mg/L		100	80 - 120	1	20
Chloride	20.5		50.0	67.88		mg/L		95	81 - 120	2	20
Sulfate	23.0		50.0	70.65		mg/L		95	80 - 120	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-461999/27
Matrix: Water
Analysis Batch: 461999

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			03/07/19 11:02	1

Lab Sample ID: MB 480-461999/3
Matrix: Water
Analysis Batch: 461999

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			03/07/19 10:42	1

Lab Sample ID: LCS 480-461999/28
Matrix: Water
Analysis Batch: 461999

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.02		mg/L		102	90 - 110

Lab Sample ID: LCS 480-461999/4
Matrix: Water
Analysis Batch: 461999

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.03		mg/L		103	90 - 110

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 461999

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.9		0.200	2.02	4 E	mg/L		55	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 480-149602-1 MSD — **Client Sample ID: 6-ONE-001-001-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461999

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.9		0.200	2.05	4 E	mg/L		70	90 - 110	1	20

Method: 410.4 - COD

Lab Sample ID: MB 480-462433/99 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			03/11/19 09:30	1

Lab Sample ID: LCS 480-462433/100 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	24.42		mg/L		98	90 - 110

Lab Sample ID: 480-149602-1 MS — **Client Sample ID: 6-ONE-001-001-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462433

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	22.4	F1	50.0	80.92		mg/L		117	75 - 125

Lab Sample ID: 480-149602-1 MSD — **Client Sample ID: 6-ONE-001-001-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	22.4	F1	50.0	85.27	F1	mg/L		126	75 - 125	5	20

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

Lab Sample ID: MB 480-462627/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462627

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			03/09/19 13:23	1

Lab Sample ID: LCS 480-462627/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462627

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	60.96		mg/L		102	90 - 110

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

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 462627

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	9.5		22.7	32.87		mg/L		103	54 - 131		

Lab Sample ID: 480-149602-1 MSD
Matrix: Water
Analysis Batch: 462627

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	9.5		22.7	33.20		mg/L		104	54 - 131	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-462741/30
Matrix: Water
Analysis Batch: 462741

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	0.79	mg/L			03/12/19 21:22	1

Lab Sample ID: MB 480-462741/7
Matrix: Water
Analysis Batch: 462741

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	0.79	mg/L			03/12/19 18:11	1

Lab Sample ID: LCS 480-462741/31
Matrix: Water
Analysis Batch: 462741

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	99.05		mg/L		99	90 - 110		

Lab Sample ID: LCS 480-462741/8
Matrix: Water
Analysis Batch: 462741

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	97.52		mg/L		98	90 - 110		

Lab Sample ID: 480-149602-1 MS
Matrix: Water
Analysis Batch: 462741

Client Sample ID: 6-ONE-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity, Total	882		100	902.9	4	mg/L		21	60 - 140		

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 480-149602-1 MSD — **Client Sample ID: 6-ONE-001-001-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462741

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity, Total	882		100	917.5	4	mg/L		36	60 - 140	2	20

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 480-461903/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			03/06/19 19:20	1

Lab Sample ID: LCS 480-461903/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	271	256.0		mg/L		94	90 - 110

Lab Sample ID: 480-149602-1 MS — **Client Sample ID: 6-ONE-001-001-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461903

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	780		500	1250		mg/L		94	74 - 130

Lab Sample ID: 480-149602-1 MSD — **Client Sample ID: 6-ONE-001-001-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461903

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total hardness as CaCO3	780		500	1300		mg/L		104	74 - 130	4	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-461511/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461511

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6.00	J	10.0	4.0	mg/L			03/05/19 04:38	1

Lab Sample ID: LCS 480-461511/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 461511

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	487.0		mg/L		97	85 - 115

GC/MS VOA

Analysis Batch: 461387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	8260C	
480-149602-4	6-ONE-001-001-04	Total/NA	Water	8260C	
MB 480-461387/9	Method Blank	Total/NA	Water	8260C	
LCS 480-461387/6	Lab Control Sample	Total/NA	Water	8260C	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	8260C	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 461523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	3510C	
MB 480-461523/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-461523/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	3510C	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	3510C	

Prep Batch: 461696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	3510C	
MB 480-461696/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-461696/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	3510C	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	3510C	

Analysis Batch: 462009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	8270D_LL_PAH	461523
MB 480-461523/1-A	Method Blank	Total/NA	Water	8270D_LL_PAH	461523
LCS 480-461523/2-A	Lab Control Sample	Total/NA	Water	8270D_LL_PAH	461523
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	8270D_LL_PAH	461523
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	8270D_LL_PAH	461523

Analysis Batch: 462442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	8270D SIM ID	461696
MB 480-461696/1-A	Method Blank	Total/NA	Water	8270D SIM ID	461696
LCS 480-461696/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	461696
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	8270D SIM ID	461696
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	8270D SIM ID	461696

LCMS

Prep Batch: 140731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	3535	
480-149602-2	6-ONE-001-001-02	Total/NA	Water	3535	
480-149602-3	6-ONE-001-001-03	Total/NA	Water	3535	
MB 200-140731/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-140731/2-A	Lab Control Sample	Total/NA	Water	3535	

LCMS (Continued)

Prep Batch: 140731 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	3535	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	3535	

Analysis Batch: 141014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	537 (modified)	140731
480-149602-2	6-ONE-001-001-02	Total/NA	Water	537 (modified)	140731
480-149602-3	6-ONE-001-001-03	Total/NA	Water	537 (modified)	140731
MB 200-140731/1-A	Method Blank	Total/NA	Water	537 (modified)	140731
LCS 200-140731/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	140731
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	537 (modified)	140731
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	537 (modified)	140731

Metals

Prep Batch: 461167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	3005A	
MB 480-461167/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-461167/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	3005A	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	3005A	

Prep Batch: 461182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	7470A	
MB 480-461182/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-461182/2-A	Lab Control Sample	Total/NA	Water	7470A	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	7470A	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	7470A	

Analysis Batch: 461252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	7470A	461182
MB 480-461182/1-A	Method Blank	Total/NA	Water	7470A	461182
LCS 480-461182/2-A	Lab Control Sample	Total/NA	Water	7470A	461182
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	7470A	461182
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	7470A	461182

Analysis Batch: 461723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	6010C	461167
MB 480-461167/1-A	Method Blank	Total/NA	Water	6010C	461167
LCS 480-461167/2-A	Lab Control Sample	Total/NA	Water	6010C	461167
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	6010C	461167
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	6010C	461167

General Chemistry

Analysis Batch: 461409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	300.0	
MB 480-461409/4	Method Blank	Total/NA	Water	300.0	
LCS 480-461409/3	Lab Control Sample	Total/NA	Water	300.0	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	300.0	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	300.0	

Analysis Batch: 461511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	SM 2540C	
MB 480-461511/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-461511/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 461903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	SM 2340C	
MB 480-461903/3	Method Blank	Total/NA	Water	SM 2340C	
LCS 480-461903/4	Lab Control Sample	Total/NA	Water	SM 2340C	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	SM 2340C	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	SM 2340C	

Analysis Batch: 461999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	350.1	
MB 480-461999/27	Method Blank	Total/NA	Water	350.1	
MB 480-461999/3	Method Blank	Total/NA	Water	350.1	
LCS 480-461999/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-461999/4	Lab Control Sample	Total/NA	Water	350.1	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	350.1	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	350.1	

Analysis Batch: 462433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	410.4	
MB 480-462433/99	Method Blank	Total/NA	Water	410.4	
LCS 480-462433/100	Lab Control Sample	Total/NA	Water	410.4	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	410.4	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	410.4	

Analysis Batch: 462627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	9060A	
MB 480-462627/4	Method Blank	Total/NA	Water	9060A	
LCS 480-462627/5	Lab Control Sample	Total/NA	Water	9060A	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	9060A	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	9060A	

Analysis Batch: 462741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149602-1	6-ONE-001-001-01	Total/NA	Water	SM 2320B	
MB 480-462741/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-462741/7	Method Blank	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 462741 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-462741/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 480-462741/8	Lab Control Sample	Total/NA	Water	SM 2320B	
480-149602-1 MS	6-ONE-001-001-01	Total/NA	Water	SM 2320B	
480-149602-1 MSD	6-ONE-001-001-01	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Client Sample ID: 6-ONE-001-001-01

Lab Sample ID: 480-149602-1

Date Collected: 02/28/19 12:40

Matrix: Water

Date Received: 03/01/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461387	03/04/19 12:42	NMC	TAL BUF
Total/NA	Prep	3510C			461696	03/06/19 07:43	JMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	462442	03/11/19 22:56	DMR	TAL BUF
Total/NA	Prep	3510C			461523	03/05/19 07:44	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	462009	03/08/19 05:49	PJQ	TAL BUF
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	141014	03/21/19 01:53	JM1	TAL BUR
Total/NA	Prep	3005A			461167	03/02/19 07:30	MV	TAL BUF
Total/NA	Analysis	6010C		1	461723	03/05/19 12:04	LMH	TAL BUF
Total/NA	Prep	7470A			461182	03/01/19 11:13	BMB	TAL BUF
Total/NA	Analysis	7470A		1	461252	03/01/19 14:09	BMB	TAL BUF
Total/NA	Analysis	300.0		1	461409	03/04/19 13:14	EMD	TAL BUF
Total/NA	Analysis	350.1		1	461999	03/07/19 11:12	A1A	TAL BUF
Total/NA	Analysis	410.4		1	462433	03/11/19 09:30	MDL	TAL BUF
Total/NA	Analysis	9060A		1	462627	03/09/19 14:22	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	462741	03/12/19 22:01	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	461903	03/06/19 19:20	DCB	TAL BUF
Total/NA	Analysis	SM 2540C		1	461511	03/05/19 04:38	EY	TAL BUF

Client Sample ID: 6-ONE-001-001-02

Lab Sample ID: 480-149602-2

Date Collected: 02/28/19 14:45

Matrix: Water

Date Received: 03/01/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141014	03/21/19 02:41	JM1	TAL BUR

Client Sample ID: 6-ONE-001-001-03

Lab Sample ID: 480-149602-3

Date Collected: 02/28/19 14:40

Matrix: Water

Date Received: 03/01/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141014	03/21/19 02:56	JM1	TAL BUR

Client Sample ID: 6-ONE-001-001-04

Lab Sample ID: 480-149602-4

Date Collected: 02/28/19 00:00

Matrix: Water

Date Received: 03/01/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461387	03/04/19 13:09	NMC	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Laboratory References:

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

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-19 *

Laboratory: TestAmerica Burlington

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
ANAB	DoD / DOE		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-19 *
Florida	NELAP	4	E87467	06-30-19
Maine	State Program	1	VT00008	04-17-19 *
Minnesota	NELAP	5	050-999-436	12-31-19
New Hampshire	NELAP	1	2006	12-18-19
New Jersey	NELAP	2	VT972	06-30-19
New York	NELAP	2	10391	04-01-19 *
Pennsylvania	NELAP	3	68-00489	04-30-19 *
Rhode Island	State Program	1	LAO00298	12-30-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-19
Virginia	NELAP	3	460209	12-14-19

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

Method Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
8270D_LL_PAH	Semivolatile Organic Compounds (GC/MS) Low level PAH	SW846	TAL BUF
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
410.4	COD	MCAWW	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 2340C	Hardness, Total (mg/l as CaC03)	SM	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR
5030C	Purge and Trap	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

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

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

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

Laboratory References:

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

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149602-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-149602-1	6-ONE-001-001-01	Water	02/28/19 12:40	03/01/19 01:00
480-149602-2	6-ONE-001-001-02	Water	02/28/19 14:45	03/01/19 01:00
480-149602-3	6-ONE-001-001-03	Water	02/28/19 14:40	03/01/19 01:00
480-149602-4	6-ONE-001-001-04	Water	02/28/19 00:00	03/01/19 01:00

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information	COC #: 6-ONE-001-001
Lab Name: TestAmerica Laboratories, Inc.	Company: OBG	Project Name: ILI - Region 6
Attention: Melissa Deyo TA PROJ. 48019734	Attention: Scott Tucker	
Address: 118 Boss Rd, Syracuse, NY 13211	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Utica City Dump
Phone: (315) 431-0171	Phone: 315-956-6345	Project Number: 450619
Email: Melissa.Deyo@testamericainc.com	Email: Scott.Tucker@obg.com	Preservative codes (for water only):

Section C Deliverable Requirements

Purchase Order No:

Report To: Scott.Tucker@obg.com

TAT - 10 Day

Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com
Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com

Section D Additional Information

Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1, 4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
										Preservative codes:			0	1	0	2	3	1	0	0	3
											#Bottles		2	3	2	1	1	1	1	1	1
1	6-ONE-001-B-4	14.85	14.85	6-ONE-001-001-01	2/28/19	1240	-	WG	N	51	X		X	X	X	X	X	X	X	X	X
2	6-ONE-001-FIELDQC	-	-	6-ONE-001-001-02	2/28/19	1445	-	WQ	FB	2			X								
3	6-ONE-001-FIELDQC	-	-	6-ONE-001-001-03	2/28/19	1440	-	WQ	EB	2			X								
4	6-ONE-001-FIELDQC	-	-	6-ONE-001-001-04	2/28/19	-	-	WQ	TB	1				X							
5																					
6																					
7																					
8																					
9																					
10																					

MTB

Syracuse #225

480-149602 Chain of Custody

Special Instructions:

FROM SYR: PFC → BVT, BAL → AUF, -RE

Samplers Name: Maria Bianchi, Brian	Company: OBG	Relinquished By: REED	Company: Syr	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 2/28/19, 16:00	R Egglin	Date/Time: 2-28-19, 1600	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Lithu	Shipment Tracking No:	Accepted By:	Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
REINA RENOLDIS	Date/Time: Syr, 2-28-19, 19:00	Wouvee	Date/Time: 03/01/19 0100	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (H3PO4):

C:\Users\BianchMT\Desktop\COC for ILI_EnvironmentalSamples_TA.xlsx

1.1 ; 0.9 #4

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information
Lab Name: TestAmerica Laboratories, Inc.	Company: OBG
Attention: Melissa Deyo TA PROJ. 48019734	Attention: Scott Tucker
Address: 118 Boss Rd, Syracuse, NY 13211	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221
Phone: (315) 431-0171	Phone: 315-956-6345
Email: Melissa.Deyo@testamericainc.com	Email: Scott.Tucker@obg.com

COC #:	6-ONE-001-001
Project Name:	ILI - Region 6
Project Site:	Utica City Dump
Project Number:	450619

Section C Deliverable Requirements

Purchase Order No:

Report To: Scott.Tucker@obg.com

TAT - 10 Day

Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com

Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD

Section D Additional Information

Preservative codes (for water only):

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1, 4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
													0	1	0	2	3	1	0	0	3
											#Bottles		2	3	2	1	1	1	1	1	1
1	6-ONE-001-B-4	14.85	14.85	6-ONE-001-001-01	2/28/19	1240	-	WG	N	51	X		X	X	X	X	X	X	X	X	X
2	6-ONE-001-FIELDQC	-	-	6-ONE-001-001-02	2/28/19	1445	-	WQ	FB	2			X								
3	6-ONE-001-FIELDQC	-	-	6-ONE-001-001-03	2/28/19	1440	-	WQ	EB	2			X								
4	6-ONE-001-FIELDQC	-	-	6-ONE-001-001-04	2/28/19	-	-	WQ	TB	1				X							
5																					
6																					
7																					
8																					
9																					
10																					

MTB

Syracuse #225

480-149602 Chain of Custody

Special Instructions:

FROM SYR: PFCs → BVT, BAL → BUF, -RE

Samplers Name: Maria Bianchelli, Brian	Company: OBG	Relinquished By: Reed Reinhardt	Company: Syr	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 2/28/19, 16:00		Date/Time: 2-28-19 1600	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Lithia Reinhardt	Shipment Tracking No:	Accepted By: [signature]	Company: TA Buf	Cooler Temp.: 2.4	Custody Seals Intact: Yes ☑ No ☐
	Date/Time: Syr, 2-28-19, 19:00		Date/Time: 12:08 3/1/19	Rec'd on Ice: Yes ☑ No ☐	Samples Intact: Yes ☑ No ☐

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (H3PO4):

C:\Users hMT\Desktop\COC for ILI_EnvironmentalSamples_TA.xlsx

ORIGIN ID:SYRA (315) 431-0171
SYR SERVICE CENTER
TESTAMERICA
118 BOSS RD

SYRACUSE, NY 13211
UNITED STATES US

SHIP DATE: 28FEB19
ACTWGT: 20.00 LB MAN
CAD: 251798/CAFE3211

BILL RECIPIENT

TO **SAMPLE RECEIVING**
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE SUITE 11

SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: OBG ILI UTICA 1COOLER

551C2/0E3D/104C

FedEx Express

E

J181118060501uv

FRI - 01 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4651 0843 5453**

NC BTVA

05403
VT-US **BTV**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Login Sample Receipt Checklist

Client: O'Brien & Gere Engineers, Inc.

Job Number: 480-149602-1

Login Number: 149602
List Number: 1
Creator: Velickovic, Zoran

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	OBG
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Login Sample Receipt Checklist

Client: O'Brien & Gere Engineers, Inc.

Job Number: 480-149602-1

Login Number: 149602
List Number: 2
Creator: McNabb, Robert W

List Source: TestAmerica Burlington
List Creation: 03/01/19 01:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are 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	2.4ºC
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	MB, BL
There are no discrepancies between the containers received 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.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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: 480-149715-1
Client Project/Site: Utica City Dump, Region 6

For:
O'Brien & Gere Engineers, Inc.
PO BOX 4873
Syracuse, New York 13221-4873

Attn: Scott Tucker

Authorized for release by:
3/25/2019 2:52:53 PM
Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

Melissa Deyo, Project Manager I
(716)504-9874
melissa.deyo@testamericainc.com

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

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

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

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: 480-149715-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-149715-1

Receipt
The samples were received on 3/5/2019 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6º C and 2.0º C.

GC/MS VOA
Method(s) 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: 6-ONE-001-002-01 (480-149715-1) and 6-ONE-001-002-02 (480-149715-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: 6-ONE-001-002-01 (480-149715-1) and 6-ONE-001-002-02 (480-149715-2). The sample(s) were analyzed within 7 days per EPA recommendation.

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

GC/MS Semi VOA
Method(s) 8270D SIM ID: The following samples were diluted to bring the concentration of target analytes within the calibration range: 6-ONE-001-002-01 (480-149715-1) and 6-ONE-001-002-02 (480-149715-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D SIM ID: The 1,4-Dioxane result reported for samples 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-02 (480-149715-2) and 6-ONE-001-002-03 (480-149715-3) have an E flag qualifier indicating the results are over the calibration range on the raw data. The actual amounts are within the calibration range; however, the E flag is generated based upon the bias corrected concentration. The LIMS system calculates a bias correction based on the recovery of the 1,4-Dioxane-d8 isotope.

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

HPLC/IC
Method(s) 300.0: The following sample was reported with elevated reporting limits for all analytes: 6-ONE-001-002-04 (480-149715-4). The sample was analyzed at a dilution based on screening results.

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

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

LCMS
Method(s) 537 (modified): Results for samples 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-02 (480-149715-2), 6-ONE-001-002-03 (480-149715-3) and 6-ONE-001-002-04 (480-149715-4) were reported from the analysis of a diluted extract due to high concentration of target analytes and/or non-target analytes in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method(s) 537 (modified): 18O2 PFHxS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 6-ONE-001-002-02 (480-149715-2) and 6-ONE-001-002-04 (480-149715-4). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C4 PFBA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 6-ONE-001-002-01 (480-149715-1) and 6-ONE-001-002-03 (480-149715-3). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C2 PFHxA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method

Job ID: 480-149715-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

recommended limit: 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-03 (480-149715-3) and 6-ONE-001-002-04 (480-149715-4). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C3 PFBS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-02 (480-149715-2), 6-ONE-001-002-03 (480-149715-3) and 6-ONE-001-002-04 (480-149715-4). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): The continuing calibration verification (CCV) associated with batch 200-141014 recovered above the upper control limit for 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 200-141014/55).

Method(s) 537 (modified): The following samples exhibited elevated noise or matrix interferences for Perfluorobutanoic acid (PFBA) causing elevation of the detection limit (EDL): 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-02 (480-149715-2) and 6-ONE-001-002-03 (480-149715-3) . The reporting limit (RL) for Perfluorobutanoic acid (PFBA) has been raised to be equal to the EDL, and a "G" qualifier applied.

Method(s) 537 (modified): M2-6:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 6-ONE-001-002-01 (480-149715-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): M2-6:2 FTS and M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 6-ONE-001-002-02 (480-149715-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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

General Chemistry

Method(s) SM 2320B: The following sample(s) was received with headspace in the sample container. This sample container was received with headspace. 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-02 (480-149715-2), 6-ONE-001-002-03 (480-149715-3), 6-ONE-001-002-04 (480-149715-4) and 6-ONE-001-002-05 (480-149715-5).

Method(s) 9060A: The following sample was diluted due to the nature of the sample matrix: 6-ONE-001-002-04 (480-149715-4). Strong odor and sediment indicates organics present. Elevated reporting limits (RLs) are provided.

Method(s) SM 2540C: Due to the matrix, the initial volume(s) used for the following samples deviated from the standard procedure: 6-ONE-001-002-01 (480-149715-1), 6-ONE-001-002-02 (480-149715-2), 6-ONE-001-002-03 (480-149715-3) and 6-ONE-001-002-04 (480-149715-4). The reporting limits (RLs) have been adjusted proportionately.

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

Organic Prep

Method(s) 3510C: Due to the matrix, the initial volume(s) used for the following samples deviated from the standard procedure: 6-ONE-001-002-01 (480-149715-1) and 6-ONE-001-002-02 (480-149715-2). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-461844.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 480-461926.

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

Job ID: 480-149715-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

Detection Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-01 — Lab Sample ID: 480-149715-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	6.2	J B	10	4.4	ug/L	10		8260C	Total/NA
1,4-Dioxane	26	E	3.3	1.7	ug/L	5		8270D SIM ID	Total/NA
Acenaphthene	0.68		0.50	0.30	ug/L	1		8270D_LL_PAH	Total/NA
Fluorene	0.96		0.50	0.37	ug/L	1		8270D_LL_PAH	Total/NA
Phenanthrene	0.94		0.50	0.38	ug/L	1		8270D_LL_PAH	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	21	J	86	6.4	ng/L	5		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	21		8.6	2.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	4.6	J	8.6	4.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	47		8.6	3.9	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	32		8.6	3.4	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	63		8.6	3.3	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	120		8.6	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	170		8.6	2.7	ng/L	5		537 (modified)	Total/NA
Barium	1.0		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.92		0.020	0.0040	mg/L	1		6010C	Total/NA
Cadmium	0.00081	J	0.0020	0.00050	mg/L	1		6010C	Total/NA
Calcium	232		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0015	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0012	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Iron	37.4	B	0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	90.8		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.28		0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	30.5		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	24.8		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0040	J B	0.010	0.0015	mg/L	1		6010C	Total/NA
Bromide	0.27		0.20	0.073	mg/L	1		300.0	Total/NA
Chloride	19.4		0.50	0.28	mg/L	1		300.0	Total/NA
Ammonia	50.0		1.0	0.45	mg/L	50		350.1	Total/NA
Chemical Oxygen Demand	78.9		10.0	5.0	mg/L	1		410.4	Total/NA
Total Organic Carbon	22.8		1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	1220		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	1010		10.0	2.6	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	1020	B	20.0	8.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 6-ONE-001-002-02 — Lab Sample ID: 480-149715-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	5.7	J B	10	4.4	ug/L	10		8260C	Total/NA
1,4-Dioxane	27	E	3.3	1.7	ug/L	5		8270D SIM ID	Total/NA
Acenaphthene	0.79		0.50	0.30	ug/L	1		8270D_LL_PAH	Total/NA
Phenanthrene	1.1		0.50	0.38	ug/L	1		8270D_LL_PAH	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	26	J	87	6.5	ng/L	5		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	50		8.7	2.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	33		8.7	4.0	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	66		8.7	3.5	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	59		8.7	3.3	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.5	J	8.7	1.2	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	110		8.7	2.7	ng/L	5		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-02 (Continued) — Lab Sample ID: 480-149715-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	170		8.7	2.7	ng/L	5		537 (modified)	Total/NA
Barium	1.1		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.95		0.020	0.0040	mg/L	1		6010C	Total/NA
Cadmium	0.00060	J	0.0020	0.00050	mg/L	1		6010C	Total/NA
Calcium	241		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0016	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0014	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Iron	39.0	B	0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.0041	J	0.010	0.0030	mg/L	1		6010C	Total/NA
Magnesium	94.4		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.29		0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	31.6		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	25.7		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0052	J B	0.010	0.0015	mg/L	1		6010C	Total/NA
Bromide	0.24		0.20	0.073	mg/L	1		300.0	Total/NA
Chloride	19.5		0.50	0.28	mg/L	1		300.0	Total/NA
Ammonia	49.6		1.0	0.45	mg/L	50		350.1	Total/NA
Chemical Oxygen Demand	81.6		10.0	5.0	mg/L	1		410.4	Total/NA
Total Organic Carbon	20.7		1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	1210		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	970		10.0	2.6	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	1040	B	20.0	8.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 6-ONE-001-002-03 — Lab Sample ID: 480-149715-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.6	E	0.20	0.10	ug/L	1		8270D SIM ID	Total/NA
Perfluorobutanesulfonic acid (PFBS)	67		9.1	2.2	ng/L	5		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	44		9.1	4.6	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	9.9		9.1	4.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	62		9.1	4.1	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	140		9.1	3.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	84		9.1	3.5	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	3.8	J	9.1	1.2	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	260		9.1	2.8	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	360		9.1	2.9	ng/L	5		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	69		9.1	2.9	ng/L	5		537 (modified)	Total/NA
Barium	0.42		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.68		0.020	0.0040	mg/L	1		6010C	Total/NA
Calcium	174		0.50	0.10	mg/L	1		6010C	Total/NA
Iron	27.3	B	0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	90.5		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	1.4		0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	32.5		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	19.5		1.0	0.32	mg/L	1		6010C	Total/NA
Bromide	0.21		0.20	0.073	mg/L	1		300.0	Total/NA
Chloride	15.0		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	1.9	J	2.0	0.35	mg/L	1		300.0	Total/NA
Ammonia	28.4		0.40	0.18	mg/L	20		350.1	Total/NA
Chemical Oxygen Demand	63.9		10.0	5.0	mg/L	1		410.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 6-ONE-001-002-03 (Continued) — Lab Sample ID: 480-149715-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	18.5		1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	1030		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	860		10.0	2.6	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	918	B	20.0	8.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 6-ONE-001-002-04 — Lab Sample ID: 480-149715-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.5	J	10	3.0	ug/L	1		8260C	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.9	J	8.1	2.0	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		8.1	3.3	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.3	J	8.1	3.1	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	230		8.1	2.5	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	10		8.1	2.6	ng/L	5		537 (modified)	Total/NA
Aluminum	3.8		0.20	0.060	mg/L	1		6010C	Total/NA
Arsenic	0.0094	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.47		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.12		0.020	0.0040	mg/L	1		6010C	Total/NA
Cadmium	0.00071	J	0.0020	0.00050	mg/L	1		6010C	Total/NA
Calcium	133		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0072		0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0031	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.017		0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	24.8	B	0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.038		0.010	0.0030	mg/L	1		6010C	Total/NA
Magnesium	14.5		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.49		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.015		0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	7.2		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	35.3		1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.011		0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.14	B	0.010	0.0015	mg/L	1		6010C	Total/NA
Chloride	36.2		1.0	0.56	mg/L	2		300.0	Total/NA
Sulfate	28.3		4.0	0.70	mg/L	2		300.0	Total/NA
Ammonia	2.6		0.040	0.018	mg/L	2		350.1	Total/NA
Chemical Oxygen Demand	69.6		10.0	5.0	mg/L	1		410.4	Total/NA
Total Organic Carbon	8.6		2.0	0.87	mg/L	2		9060A	Total/NA
Alkalinity, Total	417		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	404		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	532	B	20.0	8.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 6-ONE-001-002-05 — Lab Sample ID: 480-149715-5

No Detections.

Client Sample ID: 6-ONE-001-002-06 — Lab Sample ID: 480-149715-6

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-07a — **Lab Sample ID: 480-149715-7**

No Detections.

Client Sample ID: 6-ONE-001-002-07b — **Lab Sample ID: 480-149715-8**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: 6-ONE-001-002-01
Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	3.5	ug/L			03/07/19 03:07	10
1,1,1-Trichloroethane	ND		10	8.2	ug/L			03/07/19 03:07	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			03/07/19 03:07	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			03/07/19 03:07	10
1,1-Dichloroethane	ND		10	3.8	ug/L			03/07/19 03:07	10
1,1-Dichloroethene	ND		10	2.9	ug/L			03/07/19 03:07	10
1,2,3-Trichloropropane	ND		10	8.9	ug/L			03/07/19 03:07	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			03/07/19 03:07	10
1,2-Dibromoethane	ND		10	7.3	ug/L			03/07/19 03:07	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			03/07/19 03:07	10
1,2-Dichloroethane	ND		10	2.1	ug/L			03/07/19 03:07	10
1,2-Dichloropropane	ND		10	7.2	ug/L			03/07/19 03:07	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			03/07/19 03:07	10
2-Butanone (MEK)	ND		100	13	ug/L			03/07/19 03:07	10
2-Hexanone	ND		50	12	ug/L			03/07/19 03:07	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			03/07/19 03:07	10
Acetone	ND		100	30	ug/L			03/07/19 03:07	10
Acrylonitrile	ND		50	8.3	ug/L			03/07/19 03:07	10
Benzene	ND		10	4.1	ug/L			03/07/19 03:07	10
Bromodichloromethane	ND		10	3.9	ug/L			03/07/19 03:07	10
Bromoform	ND		10	2.6	ug/L			03/07/19 03:07	10
Bromomethane	ND		10	6.9	ug/L			03/07/19 03:07	10
Carbon disulfide	ND		10	1.9	ug/L			03/07/19 03:07	10
Carbon tetrachloride	ND		10	2.7	ug/L			03/07/19 03:07	10
Chlorobenzene	ND		10	7.5	ug/L			03/07/19 03:07	10
Chlorobromomethane	ND		10	8.7	ug/L			03/07/19 03:07	10
Chloroethane	ND		10	3.2	ug/L			03/07/19 03:07	10
Chloroform	ND		10	3.4	ug/L			03/07/19 03:07	10
Chloromethane	ND		10	3.5	ug/L			03/07/19 03:07	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			03/07/19 03:07	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			03/07/19 03:07	10
Dibromochloromethane	ND		10	3.2	ug/L			03/07/19 03:07	10
Dibromomethane	ND		10	4.1	ug/L			03/07/19 03:07	10
Ethylbenzene	ND		10	7.4	ug/L			03/07/19 03:07	10
Iodomethane	ND		10	3.0	ug/L			03/07/19 03:07	10
m,p-Xylene	ND		20	6.6	ug/L			03/07/19 03:07	10
Methylene Chloride	**6.2**	**J B**	10	4.4	ug/L			03/07/19 03:07	10
o-Xylene	ND		10	7.6	ug/L			03/07/19 03:07	10
Styrene	ND		10	7.3	ug/L			03/07/19 03:07	10
Tetrachloroethene	ND		10	3.6	ug/L			03/07/19 03:07	10
Toluene	ND		10	5.1	ug/L			03/07/19 03:07	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			03/07/19 03:07	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			03/07/19 03:07	10
trans-1,4-Dichloro-2-butene	ND		10	2.2	ug/L			03/07/19 03:07	10
Trichloroethene	ND		10	4.6	ug/L			03/07/19 03:07	10
Trichlorofluoromethane	ND		10	8.8	ug/L			03/07/19 03:07	10
Vinyl acetate	ND		50	8.5	ug/L			03/07/19 03:07	10
Vinyl chloride	ND		10	9.0	ug/L			03/07/19 03:07	10
Xylenes, Total	ND		20	6.6	ug/L			03/07/19 03:07	10

Client Sample ID: 6-ONE-001-002-01
Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-1
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*03/07/19 03:07*	*10*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*03/07/19 03:07*	*10*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*03/07/19 03:07*	*10*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/07/19 03:07*	*10*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**26**	**E**	3.3	1.7	ug/L		03/06/19 14:48	03/11/19 19:18	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*37*		*15 - 110*	*03/06/19 14:48*	*03/11/19 19:18*	*5*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.68**		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 19:05	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/07/19 07:54	03/08/19 19:05	1
Anthracene	ND		0.50	0.39	ug/L		03/07/19 07:54	03/08/19 19:05	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/07/19 07:54	03/08/19 19:05	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 19:05	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 19:05	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 19:05	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/07/19 07:54	03/08/19 19:05	1
Chrysene	ND		0.50	0.32	ug/L		03/07/19 07:54	03/08/19 19:05	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 19:05	1
Fluoranthene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 19:05	1
Fluorene	**0.96**		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 19:05	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/07/19 07:54	03/08/19 19:05	1
Naphthalene	ND		0.50	0.42	ug/L		03/07/19 07:54	03/08/19 19:05	1
Phenanthrene	**0.94**		0.50	0.38	ug/L		03/07/19 07:54	03/08/19 19:05	1
Pyrene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*48 - 120*	*03/07/19 07:54*	*03/08/19 19:05*	*1*
Nitrobenzene-d5	*87*		*46 - 120*	*03/07/19 07:54*	*03/08/19 19:05*	*1*
p-Terphenyl-d14	*62*		*24 - 136*	*03/07/19 07:54*	*03/08/19 19:05*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		86	12	ng/L		03/11/19 14:18	03/21/19 05:36	5
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		86	20	ng/L		03/11/19 14:18	03/21/19 05:36	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**21**	**J**	86	6.4	ng/L		03/11/19 14:18	03/21/19 05:36	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		86	7.3	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorobutanesulfonic acid (PFBS)	**21**		8.6	2.1	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorobutanoic acid (PFBA)	ND	G	22	22	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorodecanoic acid (PFDA)	ND		8.6	3.3	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5	ng/L		03/11/19 14:18	03/21/19 05:36	5

Client Sample ID: 6-ONE-001-002-01
Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic Acid (PFHpS)	**4.6**	**J**	8.6	4.1	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluoroheptanoic acid (PFHpA)	**47**		8.6	3.9	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorohexanesulfonic acid (PFHxS)	**32**		8.6	3.4	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorohexanoic acid (PFHxA)	**63**		8.6	3.3	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorononanoic acid (PFNA)	ND		8.6	1.2	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorooctanesulfonamide (PFOSA)	ND		8.6	2.7	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorooctanesulfonic acid (PFOS)	**120**		8.6	2.6	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorooctanoic acid (PFOA)	**170**		8.6	2.7	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluoropentanoic acid (PFPeA)	ND		8.6	2.7	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.6	3.9	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6	ng/L		03/11/19 14:18	03/21/19 05:36	5
Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3	ng/L		03/11/19 14:18	03/21/19 05:36	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*140*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C2 PFDoA	*118*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C2 PFHxA	*48*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C2 PFUnA	*139*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C2 PFTeDA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C3 PFBS	*43*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C4 PFBA	*24*	*	*25 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C4 PFOA	*108*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C4 PFOS	*104*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C4 PFHpA	*85*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C5 PFNA	*125*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C5 PFPeA	*56*		*25 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
13C8 FOSA	*101*		*25 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
18O2 PFHxS	*89*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
d3-NMeFOSAA	*91*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
d5-NEtFOSAA	*109*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
M2-6:2 FTS	*171*	*	*25 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*
M2-8:2 FTS	*137*		*25 - 150*	*03/11/19 14:18*	*03/21/19 05:36*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/06/19 16:52	03/07/19 14:23	1
Antimony	ND		0.020	0.0068	mg/L		03/06/19 16:52	03/07/19 14:23	1
Arsenic	ND		0.015	0.0056	mg/L		03/06/19 16:52	03/07/19 14:23	1
Barium	**1.0**		0.0020	0.00070	mg/L		03/06/19 16:52	03/07/19 14:23	1
Beryllium	ND		0.0020	0.00030	mg/L		03/06/19 16:52	03/07/19 14:23	1
Boron	**0.92**		0.020	0.0040	mg/L		03/06/19 16:52	03/07/19 14:23	1
Cadmium	**0.00081**	**J**	0.0020	0.00050	mg/L		03/06/19 16:52	03/07/19 14:23	1
Calcium	**232**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:23	1
Chromium	**0.0015**	**J**	0.0040	0.0010	mg/L		03/06/19 16:52	03/07/19 14:23	1
Cobalt	**0.0012**	**J**	0.0040	0.00063	mg/L		03/06/19 16:52	03/07/19 14:23	1
Copper	ND		0.010	0.0016	mg/L		03/06/19 16:52	03/07/19 14:23	1
Iron	**37.4**	**B**	0.050	0.019	mg/L		03/06/19 16:52	03/07/19 14:23	1
Lead	ND		0.010	0.0030	mg/L		03/06/19 16:52	03/07/19 14:23	1

Client Sample ID: 6-ONE-001-002-01

Lab Sample ID: 480-149715-1

Date Collected: 03/04/19 10:25

Matrix: Water

Date Received: 03/05/19 01:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**90.8**		0.20	0.043	mg/L		03/06/19 16:52	03/07/19 14:23	1
Manganese	**0.28**		0.0030	0.00040	mg/L		03/06/19 16:52	03/07/19 14:23	1
Nickel	ND		0.010	0.0013	mg/L		03/06/19 16:52	03/07/19 14:23	1
Potassium	**30.5**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:23	1
Selenium	ND		0.025	0.0087	mg/L		03/06/19 16:52	03/07/19 14:23	1
Silver	ND		0.0060	0.0017	mg/L		03/06/19 16:52	03/07/19 14:23	1
Sodium	**24.8**		1.0	0.32	mg/L		03/06/19 16:52	03/07/19 14:23	1
Thallium	ND		0.020	0.010	mg/L		03/06/19 16:52	03/07/19 14:23	1
Vanadium	ND		0.0050	0.0015	mg/L		03/06/19 16:52	03/07/19 14:23	1
Zinc	**0.0040**	**J B**	0.010	0.0015	mg/L		03/06/19 16:52	03/07/19 14:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/06/19 11:27	03/06/19 15:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.27**		0.20	0.073	mg/L			03/07/19 11:18	1
Chloride	**19.4**		0.50	0.28	mg/L			03/07/19 11:18	1
Sulfate	ND		2.0	0.35	mg/L			03/07/19 11:18	1
Ammonia	**50.0**		1.0	0.45	mg/L			03/08/19 11:18	50
Chemical Oxygen Demand	**78.9**		10.0	5.0	mg/L			03/12/19 10:00	1
Total Organic Carbon	**22.8**		1.0	0.43	mg/L			03/10/19 23:20	1
Alkalinity, Total	**1220**		5.0	0.79	mg/L			03/12/19 21:38	1
Total hardness as CaCO3	**1010**		10.0	2.6	mg/L			03/13/19 13:13	1
Total Dissolved Solids	**1020**	**B**	20.0	8.0	mg/L			03/06/19 08:24	1

Client Sample ID: 6-ONE-001-002-02

Lab Sample ID: 480-149715-2

Date Collected: 03/04/19 10:25

Matrix: Water

Date Received: 03/05/19 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	3.5	ug/L			03/07/19 03:35	10
1,1,1-Trichloroethane	ND		10	8.2	ug/L			03/07/19 03:35	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			03/07/19 03:35	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			03/07/19 03:35	10
1,1-Dichloroethane	ND		10	3.8	ug/L			03/07/19 03:35	10
1,1-Dichloroethene	ND		10	2.9	ug/L			03/07/19 03:35	10
1,2,3-Trichloropropane	ND		10	8.9	ug/L			03/07/19 03:35	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			03/07/19 03:35	10
1,2-Dibromoethane	ND		10	7.3	ug/L			03/07/19 03:35	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			03/07/19 03:35	10
1,2-Dichloroethane	ND		10	2.1	ug/L			03/07/19 03:35	10
1,2-Dichloropropane	ND		10	7.2	ug/L			03/07/19 03:35	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			03/07/19 03:35	10
2-Butanone (MEK)	ND		100	13	ug/L			03/07/19 03:35	10
2-Hexanone	ND		50	12	ug/L			03/07/19 03:35	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			03/07/19 03:35	10
Acetone	ND		100	30	ug/L			03/07/19 03:35	10

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-02
Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		50	8.3	ug/L			03/07/19 03:35	10
Benzene	ND		10	4.1	ug/L			03/07/19 03:35	10
Bromodichloromethane	ND		10	3.9	ug/L			03/07/19 03:35	10
Bromoform	ND		10	2.6	ug/L			03/07/19 03:35	10
Bromomethane	ND		10	6.9	ug/L			03/07/19 03:35	10
Carbon disulfide	ND		10	1.9	ug/L			03/07/19 03:35	10
Carbon tetrachloride	ND		10	2.7	ug/L			03/07/19 03:35	10
Chlorobenzene	ND		10	7.5	ug/L			03/07/19 03:35	10
Chlorobromomethane	ND		10	8.7	ug/L			03/07/19 03:35	10
Chloroethane	ND		10	3.2	ug/L			03/07/19 03:35	10
Chloroform	ND		10	3.4	ug/L			03/07/19 03:35	10
Chloromethane	ND		10	3.5	ug/L			03/07/19 03:35	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			03/07/19 03:35	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			03/07/19 03:35	10
Dibromochloromethane	ND		10	3.2	ug/L			03/07/19 03:35	10
Dibromomethane	ND		10	4.1	ug/L			03/07/19 03:35	10
Ethylbenzene	ND		10	7.4	ug/L			03/07/19 03:35	10
Iodomethane	ND		10	3.0	ug/L			03/07/19 03:35	10
m,p-Xylene	ND		20	6.6	ug/L			03/07/19 03:35	10
Methylene Chloride	**5.7**	**J B**	10	4.4	ug/L			03/07/19 03:35	10
o-Xylene	ND		10	7.6	ug/L			03/07/19 03:35	10
Styrene	ND		10	7.3	ug/L			03/07/19 03:35	10
Tetrachloroethene	ND		10	3.6	ug/L			03/07/19 03:35	10
Toluene	ND		10	5.1	ug/L			03/07/19 03:35	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			03/07/19 03:35	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			03/07/19 03:35	10
trans-1,4-Dichloro-2-butene	ND		10	2.2	ug/L			03/07/19 03:35	10
Trichloroethene	ND		10	4.6	ug/L			03/07/19 03:35	10
Trichlorofluoromethane	ND		10	8.8	ug/L			03/07/19 03:35	10
Vinyl acetate	ND		50	8.5	ug/L			03/07/19 03:35	10
Vinyl chloride	ND		10	9.0	ug/L			03/07/19 03:35	10
Xylenes, Total	ND		20	6.6	ug/L			03/07/19 03:35	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*03/07/19 03:35*	*10*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*03/07/19 03:35*	*10*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/07/19 03:35*	*10*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/07/19 03:35*	*10*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**27**	**E**	3.3	1.7	ug/L		03/06/19 14:48	03/11/19 19:43	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*37*		*15 - 110*	*03/06/19 14:48*	*03/11/19 19:43*	*5*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.79**		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 19:34	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/07/19 07:54	03/08/19 19:34	1
Anthracene	ND		0.50	0.39	ug/L		03/07/19 07:54	03/08/19 19:34	1

Client Sample ID: 6-ONE-001-002-02
Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-2
Matrix: Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/07/19 07:54	03/08/19 19:34	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 19:34	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 19:34	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 19:34	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/07/19 07:54	03/08/19 19:34	1
Chrysene	ND		0.50	0.32	ug/L		03/07/19 07:54	03/08/19 19:34	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 19:34	1
Fluoranthene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 19:34	1
Fluorene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 19:34	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/07/19 07:54	03/08/19 19:34	1
Naphthalene	ND		0.50	0.42	ug/L		03/07/19 07:54	03/08/19 19:34	1
Phenanthrene	**1.1**		0.50	0.38	ug/L		03/07/19 07:54	03/08/19 19:34	1
Pyrene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*48 - 120*	*03/07/19 07:54*	*03/08/19 19:34*	*1*
Nitrobenzene-d5	*91*		*46 - 120*	*03/07/19 07:54*	*03/08/19 19:34*	*1*
p-Terphenyl-d14	*63*		*24 - 136*	*03/07/19 07:54*	*03/08/19 19:34*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		87	13	ng/L		03/11/19 14:18	03/21/19 05:51	5
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		87	20	ng/L		03/11/19 14:18	03/21/19 05:51	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**26**	**J**	87	6.5	ng/L		03/11/19 14:18	03/21/19 05:51	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		87	7.4	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorobutanesulfonic acid (PFBS)	**50**		8.7	2.1	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorobutanoic acid (PFBA)	ND	G	10	10	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.7	3.9	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorodecanoic acid (PFDA)	ND		8.7	3.3	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorododecanoic acid (PFDoA)	ND		8.7	2.6	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.7	4.1	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluoroheptanoic acid (PFHpA)	**33**		8.7	4.0	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorohexanesulfonic acid (PFHxS)	**66**		8.7	3.5	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorohexanoic acid (PFHxA)	**59**		8.7	3.3	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorononanoic acid (PFNA)	**1.5**	**J**	8.7	1.2	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorooctanesulfonamide (PFOSA)	ND		8.7	2.8	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorooctanesulfonic acid (PFOS)	**110**		8.7	2.7	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorooctanoic acid (PFOA)	**170**		8.7	2.7	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluoropentanoic acid (PFPeA)	ND		8.7	2.7	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.7	4.0	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluorotridecanoic acid (PFTriA)	ND		8.7	2.6	ng/L		03/11/19 14:18	03/21/19 05:51	5
Perfluoroundecanoic acid (PFUnA)	ND		8.7	2.3	ng/L		03/11/19 14:18	03/21/19 05:51	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*144*		*50 - 150*	*03/11/19 14:18*	*03/21/19 05:51*	*5*

Client Sample ID: 6-ONE-001-002-02
Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	131		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C2 PFHxA	54		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C2 PFUnA	137		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C2 PFTeDA	100		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C3 PFBS	36	*	50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C4 PFBA	27		25 - 150	03/11/19 14:18	03/21/19 05:51	5
13C4 PFOA	93		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C4 PFOS	133		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C4 PFHpA	88		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C5 PFNA	133		50 - 150	03/11/19 14:18	03/21/19 05:51	5
13C5 PFPeA	43		25 - 150	03/11/19 14:18	03/21/19 05:51	5
13C8 FOSA	95		25 - 150	03/11/19 14:18	03/21/19 05:51	5
18O2 PFHxS	49	*	50 - 150	03/11/19 14:18	03/21/19 05:51	5
d3-NMeFOSAA	91		50 - 150	03/11/19 14:18	03/21/19 05:51	5
d5-NEtFOSAA	98		50 - 150	03/11/19 14:18	03/21/19 05:51	5
M2-6:2 FTS	157	*	25 - 150	03/11/19 14:18	03/21/19 05:51	5
M2-8:2 FTS	180	*	25 - 150	03/11/19 14:18	03/21/19 05:51	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/06/19 16:52	03/07/19 14:42	1
Antimony	ND		0.020	0.0068	mg/L		03/06/19 16:52	03/07/19 14:42	1
Arsenic	ND		0.015	0.0056	mg/L		03/06/19 16:52	03/07/19 14:42	1
Barium	**1.1**		0.0020	0.00070	mg/L		03/06/19 16:52	03/07/19 14:42	1
Beryllium	ND		0.0020	0.00030	mg/L		03/06/19 16:52	03/07/19 14:42	1
Boron	**0.95**		0.020	0.0040	mg/L		03/06/19 16:52	03/07/19 14:42	1
Cadmium	**0.00060**	**J**	0.0020	0.00050	mg/L		03/06/19 16:52	03/07/19 14:42	1
Calcium	**241**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:42	1
Chromium	**0.0016**	**J**	0.0040	0.0010	mg/L		03/06/19 16:52	03/07/19 14:42	1
Cobalt	**0.0014**	**J**	0.0040	0.00063	mg/L		03/06/19 16:52	03/07/19 14:42	1
Copper	ND		0.010	0.0016	mg/L		03/06/19 16:52	03/07/19 14:42	1
Iron	**39.0**	**B**	0.050	0.019	mg/L		03/06/19 16:52	03/07/19 14:42	1
Lead	**0.0041**	**J**	0.010	0.0030	mg/L		03/06/19 16:52	03/07/19 14:42	1
Magnesium	**94.4**		0.20	0.043	mg/L		03/06/19 16:52	03/07/19 14:42	1
Manganese	**0.29**		0.0030	0.00040	mg/L		03/06/19 16:52	03/07/19 14:42	1
Nickel	ND		0.010	0.0013	mg/L		03/06/19 16:52	03/07/19 14:42	1
Potassium	**31.6**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:42	1
Selenium	ND		0.025	0.0087	mg/L		03/06/19 16:52	03/07/19 14:42	1
Silver	ND		0.0060	0.0017	mg/L		03/06/19 16:52	03/07/19 14:42	1
Sodium	**25.7**		1.0	0.32	mg/L		03/06/19 16:52	03/07/19 14:42	1
Thallium	ND		0.020	0.010	mg/L		03/06/19 16:52	03/07/19 14:42	1
Vanadium	ND		0.0050	0.0015	mg/L		03/06/19 16:52	03/07/19 14:42	1
Zinc	**0.0052**	**J B**	0.010	0.0015	mg/L		03/06/19 16:52	03/07/19 14:42	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/06/19 11:27	03/06/19 15:05	1

Client Sample ID: 6-ONE-001-002-02

Lab Sample ID: 480-149715-2

Date Collected: 03/04/19 10:25

Matrix: Water

Date Received: 03/05/19 01:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.24**		0.20	0.073	mg/L			03/07/19 11:33	1
Chloride	**19.5**		0.50	0.28	mg/L			03/07/19 11:33	1
Sulfate	ND		2.0	0.35	mg/L			03/07/19 11:33	1
Ammonia	**49.6**		1.0	0.45	mg/L			03/08/19 11:22	50
Chemical Oxygen Demand	**81.6**		10.0	5.0	mg/L			03/12/19 10:00	1
Total Organic Carbon	**20.7**		1.0	0.43	mg/L			03/10/19 23:50	1
Alkalinity, Total	**1210**		5.0	0.79	mg/L			03/12/19 21:59	1
Total hardness as CaCO3	**970**		10.0	2.6	mg/L			03/13/19 13:13	1
Total Dissolved Solids	**1040**	**B**	20.0	8.0	mg/L			03/06/19 08:24	1

Client Sample ID: 6-ONE-001-002-03

Lab Sample ID: 480-149715-3

Date Collected: 03/04/19 12:30

Matrix: Water

Date Received: 03/05/19 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			03/07/19 04:02	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/07/19 04:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/07/19 04:02	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/07/19 04:02	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/07/19 04:02	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/07/19 04:02	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/07/19 04:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/07/19 04:02	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/07/19 04:02	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/07/19 04:02	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/07/19 04:02	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/07/19 04:02	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/07/19 04:02	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/07/19 04:02	1
2-Hexanone	ND		5.0	1.2	ug/L			03/07/19 04:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/07/19 04:02	1
Acetone	ND		10	3.0	ug/L			03/07/19 04:02	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/07/19 04:02	1
Benzene	ND		1.0	0.41	ug/L			03/07/19 04:02	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/07/19 04:02	1
Bromoform	ND		1.0	0.26	ug/L			03/07/19 04:02	1
Bromomethane	ND		1.0	0.69	ug/L			03/07/19 04:02	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/07/19 04:02	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/07/19 04:02	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/07/19 04:02	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/07/19 04:02	1
Chloroethane	ND		1.0	0.32	ug/L			03/07/19 04:02	1
Chloroform	ND		1.0	0.34	ug/L			03/07/19 04:02	1
Chloromethane	ND		1.0	0.35	ug/L			03/07/19 04:02	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/07/19 04:02	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/07/19 04:02	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/07/19 04:02	1
Dibromomethane	ND		1.0	0.41	ug/L			03/07/19 04:02	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/07/19 04:02	1

Client Sample ID: 6-ONE-001-002-03
Date Collected: 03/04/19 12:30
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iodomethane	ND		1.0	0.30	ug/L			03/07/19 04:02	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/07/19 04:02	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/07/19 04:02	1
o-Xylene	ND		1.0	0.76	ug/L			03/07/19 04:02	1
Styrene	ND		1.0	0.73	ug/L			03/07/19 04:02	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/07/19 04:02	1
Toluene	ND		1.0	0.51	ug/L			03/07/19 04:02	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/07/19 04:02	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/07/19 04:02	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/07/19 04:02	1
Trichloroethene	ND		1.0	0.46	ug/L			03/07/19 04:02	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/07/19 04:02	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/07/19 04:02	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/07/19 04:02	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/07/19 04:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*03/07/19 04:02*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*03/07/19 04:02*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/07/19 04:02*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*03/07/19 04:02*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.6	E	0.20	0.10	ug/L		03/06/19 14:48	03/11/19 20:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*30*		*15 - 110*	*03/06/19 14:48*	*03/11/19 20:07*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 20:03	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/07/19 07:54	03/08/19 20:03	1
Anthracene	ND		0.50	0.39	ug/L		03/07/19 07:54	03/08/19 20:03	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/07/19 07:54	03/08/19 20:03	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 20:03	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 20:03	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 20:03	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/07/19 07:54	03/08/19 20:03	1
Chrysene	ND		0.50	0.32	ug/L		03/07/19 07:54	03/08/19 20:03	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 20:03	1
Fluoranthene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 20:03	1
Fluorene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 20:03	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/07/19 07:54	03/08/19 20:03	1
Naphthalene	ND		0.50	0.42	ug/L		03/07/19 07:54	03/08/19 20:03	1
Phenanthrene	ND		0.50	0.38	ug/L		03/07/19 07:54	03/08/19 20:03	1
Pyrene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*48 - 120*	*03/07/19 07:54*	*03/08/19 20:03*	*1*
Nitrobenzene-d5	*85*		*46 - 120*	*03/07/19 07:54*	*03/08/19 20:03*	*1*

Client Sample ID: 6-ONE-001-002-03
Date Collected: 03/04/19 12:30
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-3
Matrix: Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl-d14	*70*		*24 - 136*	*03/07/19 07:54*	*03/08/19 20:03*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		91	13	ng/L		03/11/19 14:18	03/21/19 06:07	5
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		91	21	ng/L		03/11/19 14:18	03/21/19 06:07	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		91	6.8	ng/L		03/11/19 14:18	03/21/19 06:07	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		91	7.7	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorobutanesulfonic acid (PFBS)	**67**		9.1	2.2	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorobutanoic acid (PFBA)	**44**		9.1	4.6	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorodecanesulfonic acid (PFDS)	ND		9.1	4.1	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorodecanoic acid (PFDA)	ND		9.1	3.5	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorododecanoic acid (PFDoA)	ND		9.1	2.7	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluoroheptanesulfonic Acid (PFHpS)	**9.9**		9.1	4.3	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluoroheptanoic acid (PFHpA)	**62**		9.1	4.1	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorohexanesulfonic acid (PFHxS)	**140**		9.1	3.6	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorohexanoic acid (PFHxA)	**84**		9.1	3.5	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorononanoic acid (PFNA)	**3.8**	**J**	9.1	1.2	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorooctanesulfonamide (PFOSA)	ND		9.1	2.9	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorooctanesulfonic acid (PFOS)	**260**		9.1	2.8	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorooctanoic acid (PFOA)	**360**		9.1	2.9	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluoropentanoic acid (PFPeA)	**69**		9.1	2.9	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorotetradecanoic acid (PFTeA)	ND		9.1	4.2	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluorotridecanoic acid (PFTriA)	ND		9.1	2.7	ng/L		03/11/19 14:18	03/21/19 06:07	5
Perfluoroundecanoic acid (PFUnA)	ND		9.1	2.4	ng/L		03/11/19 14:18	03/21/19 06:07	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	*116*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C2 PFDoA	*117*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C2 PFHxA	*45*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C2 PFUnA	*113*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C2 PFTeDA	*92*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C3 PFBS	*44*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C4 PFBA	*20*	*	*25 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C4 PFOA	*111*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C4 PFOS	*110*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C4 PFHpA	*85*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C5 PFNA	*110*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C5 PFPeA	*27*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
13C8 FOSA	*73*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
18O2 PFHxS	*56*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
d3-NMeFOSAA	*86*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
d5-NEtFOSAA	*108*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*
M2-6:2 FTS	*142*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*

Client Sample ID: 6-ONE-001-002-03

Date Collected: 03/04/19 12:30
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-8:2 FTS	*114*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:07*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/06/19 16:52	03/07/19 14:58	1
Antimony	ND		0.020	0.0068	mg/L		03/06/19 16:52	03/07/19 14:58	1
Arsenic	ND		0.015	0.0056	mg/L		03/06/19 16:52	03/07/19 14:58	1
Barium	**0.42**		0.0020	0.00070	mg/L		03/06/19 16:52	03/07/19 14:58	1
Beryllium	ND		0.0020	0.00030	mg/L		03/06/19 16:52	03/07/19 14:58	1
Boron	**0.68**		0.020	0.0040	mg/L		03/06/19 16:52	03/07/19 14:58	1
Cadmium	ND		0.0020	0.00050	mg/L		03/06/19 16:52	03/07/19 14:58	1
Calcium	**174**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:58	1
Chromium	ND		0.0040	0.0010	mg/L		03/06/19 16:52	03/07/19 14:58	1
Cobalt	ND		0.0040	0.00063	mg/L		03/06/19 16:52	03/07/19 14:58	1
Copper	ND		0.010	0.0016	mg/L		03/06/19 16:52	03/07/19 14:58	1
Iron	**27.3**	**B**	0.050	0.019	mg/L		03/06/19 16:52	03/07/19 14:58	1
Lead	ND		0.010	0.0030	mg/L		03/06/19 16:52	03/07/19 14:58	1
Magnesium	**90.5**		0.20	0.043	mg/L		03/06/19 16:52	03/07/19 14:58	1
Manganese	**1.4**		0.0030	0.00040	mg/L		03/06/19 16:52	03/07/19 14:58	1
Nickel	ND		0.010	0.0013	mg/L		03/06/19 16:52	03/07/19 14:58	1
Potassium	**32.5**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:58	1
Selenium	ND		0.025	0.0087	mg/L		03/06/19 16:52	03/07/19 14:58	1
Silver	ND		0.0060	0.0017	mg/L		03/06/19 16:52	03/07/19 14:58	1
Sodium	**19.5**		1.0	0.32	mg/L		03/06/19 16:52	03/07/19 14:58	1
Thallium	ND		0.020	0.010	mg/L		03/06/19 16:52	03/07/19 14:58	1
Vanadium	ND		0.0050	0.0015	mg/L		03/06/19 16:52	03/07/19 14:58	1
Zinc	ND		0.010	0.0015	mg/L		03/06/19 16:52	03/07/19 14:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/06/19 11:27	03/06/19 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.21**		0.20	0.073	mg/L			03/07/19 11:47	1
Chloride	**15.0**		0.50	0.28	mg/L			03/07/19 11:47	1
Sulfate	**1.9**	**J**	2.0	0.35	mg/L			03/07/19 11:47	1
Ammonia	**28.4**		0.40	0.18	mg/L			03/08/19 11:23	20
Chemical Oxygen Demand	**63.9**		10.0	5.0	mg/L			03/12/19 10:00	1
Total Organic Carbon	**18.5**		1.0	0.43	mg/L			03/11/19 00:21	1
Alkalinity, Total	**1030**		5.0	0.79	mg/L			03/12/19 22:09	1
Total hardness as CaCO3	**860**		10.0	2.6	mg/L			03/13/19 13:13	1
Total Dissolved Solids	**918**	**B**	20.0	8.0	mg/L			03/06/19 08:24	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-04
Date Collected: 03/04/19 13:50
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			03/07/19 04:29	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/07/19 04:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/07/19 04:29	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/07/19 04:29	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/07/19 04:29	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/07/19 04:29	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/07/19 04:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/07/19 04:29	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/07/19 04:29	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/07/19 04:29	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/07/19 04:29	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/07/19 04:29	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/07/19 04:29	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/07/19 04:29	1
2-Hexanone	ND		5.0	1.2	ug/L			03/07/19 04:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/07/19 04:29	1
Acetone	**5.5**	**J**	10	3.0	ug/L			03/07/19 04:29	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/07/19 04:29	1
Benzene	ND		1.0	0.41	ug/L			03/07/19 04:29	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/07/19 04:29	1
Bromoform	ND		1.0	0.26	ug/L			03/07/19 04:29	1
Bromomethane	ND		1.0	0.69	ug/L			03/07/19 04:29	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/07/19 04:29	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/07/19 04:29	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/07/19 04:29	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/07/19 04:29	1
Chloroethane	ND		1.0	0.32	ug/L			03/07/19 04:29	1
Chloroform	ND		1.0	0.34	ug/L			03/07/19 04:29	1
Chloromethane	ND		1.0	0.35	ug/L			03/07/19 04:29	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/07/19 04:29	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/07/19 04:29	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/07/19 04:29	1
Dibromomethane	ND		1.0	0.41	ug/L			03/07/19 04:29	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/07/19 04:29	1
Iodomethane	ND		1.0	0.30	ug/L			03/07/19 04:29	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/07/19 04:29	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/07/19 04:29	1
o-Xylene	ND		1.0	0.76	ug/L			03/07/19 04:29	1
Styrene	ND		1.0	0.73	ug/L			03/07/19 04:29	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/07/19 04:29	1
Toluene	ND		1.0	0.51	ug/L			03/07/19 04:29	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/07/19 04:29	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/07/19 04:29	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/07/19 04:29	1
Trichloroethene	ND		1.0	0.46	ug/L			03/07/19 04:29	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/07/19 04:29	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/07/19 04:29	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/07/19 04:29	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/07/19 04:29	1

Client Sample ID: 6-ONE-001-002-04

Date Collected: 03/04/19 13:50
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*03/07/19 04:29*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*03/07/19 04:29*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*03/07/19 04:29*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/07/19 04:29*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		03/06/19 14:48	03/11/19 20:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*31*		*15 - 110*	*03/06/19 14:48*	*03/11/19 20:32*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 20:31	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/07/19 07:54	03/08/19 20:31	1
Anthracene	ND		0.50	0.39	ug/L		03/07/19 07:54	03/08/19 20:31	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/07/19 07:54	03/08/19 20:31	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 20:31	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 20:31	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 20:31	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/07/19 07:54	03/08/19 20:31	1
Chrysene	ND		0.50	0.32	ug/L		03/07/19 07:54	03/08/19 20:31	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 20:31	1
Fluoranthene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 20:31	1
Fluorene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 20:31	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/07/19 07:54	03/08/19 20:31	1
Naphthalene	ND		0.50	0.42	ug/L		03/07/19 07:54	03/08/19 20:31	1
Phenanthrene	ND		0.50	0.38	ug/L		03/07/19 07:54	03/08/19 20:31	1
Pyrene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*48 - 120*	*03/07/19 07:54*	*03/08/19 20:31*	*1*
Nitrobenzene-d5	*92*		*46 - 120*	*03/07/19 07:54*	*03/08/19 20:31*	*1*
p-Terphenyl-d14	*49*		*24 - 136*	*03/07/19 07:54*	*03/08/19 20:31*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		81	12	ng/L		03/11/19 14:18	03/21/19 06:23	5
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		81	19	ng/L		03/11/19 14:18	03/21/19 06:23	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		81	6.1	ng/L		03/11/19 14:18	03/21/19 06:23	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		81	6.9	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorobutanesulfonic acid (PFBS)	**3.9**	**J**	8.1	2.0	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorobutanoic acid (PFBA)	ND		8.1	4.1	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.1	3.7	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorodecanoic acid (PFDA)	ND		8.1	3.1	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorododecanoic acid (PFDoA)	ND		8.1	2.4	ng/L		03/11/19 14:18	03/21/19 06:23	5

Client Sample ID: 6-ONE-001-002-04
Date Collected: 03/04/19 13:50
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.1	3.9	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluoroheptanoic acid (PFHpA)	ND		8.1	3.7	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorohexanesulfonic acid (PFHxS)	**14**		8.1	3.3	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorohexanoic acid (PFHxA)	**3.3**	**J**	8.1	3.1	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorononanoic acid (PFNA)	ND		8.1	1.1	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorooctanesulfonamide (PFOSA)	ND		8.1	2.6	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorooctanesulfonic acid (PFOS)	**230**		8.1	2.5	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorooctanoic acid (PFOA)	**10**		8.1	2.6	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluoropentanoic acid (PFPeA)	ND		8.1	2.6	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.1	3.7	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluorotridecanoic acid (PFTriA)	ND		8.1	2.4	ng/L		03/11/19 14:18	03/21/19 06:23	5
Perfluoroundecanoic acid (PFUnA)	ND		8.1	2.2	ng/L		03/11/19 14:18	03/21/19 06:23	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*92*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C2 PFDoA	*99*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C2 PFHxA	*49*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C2 PFUnA	*106*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C2 PFTeDA	*89*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C3 PFBS	*43*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C4 PFBA	*41*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C4 PFOA	*114*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C4 PFOS	*83*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C4 PFHpA	*82*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C5 PFNA	*107*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C5 PFPeA	*29*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
13C8 FOSA	*70*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
18O2 PFHxS	*34*	*	*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
d3-NMeFOSAA	*70*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
d5-NEtFOSAA	*85*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
M2-6:2 FTS	*122*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*
M2-8:2 FTS	*128*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:23*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3.8**		0.20	0.060	mg/L		03/06/19 16:52	03/07/19 15:01	1
Antimony	ND		0.020	0.0068	mg/L		03/06/19 16:52	03/07/19 15:01	1
Arsenic	**0.0094**	**J**	0.015	0.0056	mg/L		03/06/19 16:52	03/07/19 15:01	1
Barium	**0.47**		0.0020	0.00070	mg/L		03/06/19 16:52	03/07/19 15:01	1
Beryllium	ND		0.0020	0.00030	mg/L		03/06/19 16:52	03/07/19 15:01	1
Boron	**0.12**		0.020	0.0040	mg/L		03/06/19 16:52	03/07/19 15:01	1
Cadmium	**0.00071**	**J**	0.0020	0.00050	mg/L		03/06/19 16:52	03/07/19 15:01	1
Calcium	**133**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 15:01	1
Chromium	**0.0072**		0.0040	0.0010	mg/L		03/06/19 16:52	03/07/19 15:01	1
Cobalt	**0.0031**	**J**	0.0040	0.00063	mg/L		03/06/19 16:52	03/07/19 15:01	1
Copper	**0.017**		0.010	0.0016	mg/L		03/06/19 16:52	03/07/19 15:01	1
Iron	**24.8**	**B**	0.050	0.019	mg/L		03/06/19 16:52	03/07/19 15:01	1
Lead	**0.038**		0.010	0.0030	mg/L		03/06/19 16:52	03/07/19 15:01	1

Client Sample ID: 6-ONE-001-002-04

Lab Sample ID: 480-149715-4

Date Collected: 03/04/19 13:50

Matrix: Water

Date Received: 03/05/19 01:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**14.5**		0.20	0.043	mg/L		03/06/19 16:52	03/07/19 15:01	1
Manganese	**0.49**		0.0030	0.00040	mg/L		03/06/19 16:52	03/07/19 15:01	1
Nickel	**0.015**		0.010	0.0013	mg/L		03/06/19 16:52	03/07/19 15:01	1
Potassium	**7.2**		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 15:01	1
Selenium	ND		0.025	0.0087	mg/L		03/06/19 16:52	03/07/19 15:01	1
Silver	ND		0.0060	0.0017	mg/L		03/06/19 16:52	03/07/19 15:01	1
Sodium	**35.3**		1.0	0.32	mg/L		03/06/19 16:52	03/07/19 15:01	1
Thallium	ND		0.020	0.010	mg/L		03/06/19 16:52	03/07/19 15:01	1
Vanadium	**0.011**		0.0050	0.0015	mg/L		03/06/19 16:52	03/07/19 15:01	1
Zinc	**0.14**	**B**	0.010	0.0015	mg/L		03/06/19 16:52	03/07/19 15:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/06/19 11:27	03/06/19 15:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.15	mg/L			03/06/19 17:51	2
Chloride	**36.2**		1.0	0.56	mg/L			03/06/19 17:51	2
Sulfate	**28.3**		4.0	0.70	mg/L			03/06/19 17:51	2
Ammonia	**2.6**		0.040	0.018	mg/L			03/08/19 11:24	2
Chemical Oxygen Demand	**69.6**		10.0	5.0	mg/L			03/12/19 10:00	1
Total Organic Carbon	**8.6**		2.0	0.87	mg/L			03/11/19 00:50	2
Alkalinity, Total	**417**		5.0	0.79	mg/L			03/12/19 22:16	1
Total hardness as CaCO3	**404**		4.0	1.1	mg/L			03/13/19 13:13	1
Total Dissolved Solids	**532**	**B**	20.0	8.0	mg/L			03/06/19 08:24	1

Client Sample ID: 6-ONE-001-002-05

Lab Sample ID: 480-149715-5

Date Collected: 03/04/19 14:00

Matrix: Water

Date Received: 03/05/19 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			03/07/19 04:55	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/07/19 04:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/07/19 04:55	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/07/19 04:55	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/07/19 04:55	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/07/19 04:55	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/07/19 04:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/07/19 04:55	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/07/19 04:55	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/07/19 04:55	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/07/19 04:55	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/07/19 04:55	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/07/19 04:55	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/07/19 04:55	1
2-Hexanone	ND		5.0	1.2	ug/L			03/07/19 04:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/07/19 04:55	1
Acetone	ND		10	3.0	ug/L			03/07/19 04:55	1

Client Sample ID: 6-ONE-001-002-05
Date Collected: 03/04/19 14:00
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		5.0	0.83	ug/L			03/07/19 04:55	1
Benzene	ND		1.0	0.41	ug/L			03/07/19 04:55	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/07/19 04:55	1
Bromoform	ND		1.0	0.26	ug/L			03/07/19 04:55	1
Bromomethane	ND		1.0	0.69	ug/L			03/07/19 04:55	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/07/19 04:55	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/07/19 04:55	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/07/19 04:55	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/07/19 04:55	1
Chloroethane	ND		1.0	0.32	ug/L			03/07/19 04:55	1
Chloroform	ND		1.0	0.34	ug/L			03/07/19 04:55	1
Chloromethane	ND		1.0	0.35	ug/L			03/07/19 04:55	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/07/19 04:55	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/07/19 04:55	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/07/19 04:55	1
Dibromomethane	ND		1.0	0.41	ug/L			03/07/19 04:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/07/19 04:55	1
Iodomethane	ND		1.0	0.30	ug/L			03/07/19 04:55	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/07/19 04:55	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/07/19 04:55	1
o-Xylene	ND		1.0	0.76	ug/L			03/07/19 04:55	1
Styrene	ND		1.0	0.73	ug/L			03/07/19 04:55	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/07/19 04:55	1
Toluene	ND		1.0	0.51	ug/L			03/07/19 04:55	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/07/19 04:55	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/07/19 04:55	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/07/19 04:55	1
Trichloroethene	ND		1.0	0.46	ug/L			03/07/19 04:55	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/07/19 04:55	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/07/19 04:55	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/07/19 04:55	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/07/19 04:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*03/07/19 04:55*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*03/07/19 04:55*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*03/07/19 04:55*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/07/19 04:55*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		03/06/19 14:48	03/11/19 20:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*28*		*15 - 110*	*03/06/19 14:48*	*03/11/19 20:56*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 21:00	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/07/19 07:54	03/08/19 21:00	1
Anthracene	ND		0.50	0.39	ug/L		03/07/19 07:54	03/08/19 21:00	1

Client Sample ID: 6-ONE-001-002-05
Date Collected: 03/04/19 14:00
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-5
Matrix: Water

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/07/19 07:54	03/08/19 21:00	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 21:00	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 21:00	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 21:00	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/07/19 07:54	03/08/19 21:00	1
Chrysene	ND		0.50	0.32	ug/L		03/07/19 07:54	03/08/19 21:00	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 21:00	1
Fluoranthene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 21:00	1
Fluorene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 21:00	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/07/19 07:54	03/08/19 21:00	1
Naphthalene	ND		0.50	0.42	ug/L		03/07/19 07:54	03/08/19 21:00	1
Phenanthrene	ND		0.50	0.38	ug/L		03/07/19 07:54	03/08/19 21:00	1
Pyrene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*48 - 120*	*03/07/19 07:54*	*03/08/19 21:00*	*1*
Nitrobenzene-d5	*88*		*46 - 120*	*03/07/19 07:54*	*03/08/19 21:00*	*1*
p-Terphenyl-d14	*86*		*24 - 136*	*03/07/19 07:54*	*03/08/19 21:00*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		18	2.7	ng/L		03/11/19 14:18	03/21/19 06:39	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		18	4.2	ng/L		03/11/19 14:18	03/21/19 06:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.4	ng/L		03/11/19 14:18	03/21/19 06:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	1.6	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorobutanoic acid (PFBA)	ND		1.8	0.92	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.82	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.71	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.54	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.87	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.83	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.73	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.70	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.59	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.56	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.58	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.58	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.84	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.55	ng/L		03/11/19 14:18	03/21/19 06:39	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.49	ng/L		03/11/19 14:18	03/21/19 06:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*109*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:39*	*1*
13C2 PFDoA	*89*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:39*	*1*
13C2 PFHxA	*99*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:39*	*1*

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-05
Date Collected: 03/04/19 14:00
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-5
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	101		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C2 PFTeDA	87		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C3 PFBS	78		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C4 PFBA	61		25 - 150	03/11/19 14:18	03/21/19 06:39	1
13C4 PFOA	104		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C4 PFOS	90		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C4 PFHpA	104		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C5 PFNA	106		50 - 150	03/11/19 14:18	03/21/19 06:39	1
13C5 PFPeA	104		25 - 150	03/11/19 14:18	03/21/19 06:39	1
13C8 FOSA	55		25 - 150	03/11/19 14:18	03/21/19 06:39	1
18O2 PFHxS	74		50 - 150	03/11/19 14:18	03/21/19 06:39	1
d3-NMeFOSAA	84		50 - 150	03/11/19 14:18	03/21/19 06:39	1
d5-NEtFOSAA	86		50 - 150	03/11/19 14:18	03/21/19 06:39	1
M2-6:2 FTS	94		25 - 150	03/11/19 14:18	03/21/19 06:39	1
M2-8:2 FTS	123		25 - 150	03/11/19 14:18	03/21/19 06:39	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/06/19 16:52	03/07/19 15:05	1
Antimony	ND		0.020	0.0068	mg/L		03/06/19 16:52	03/07/19 15:05	1
Arsenic	ND		0.015	0.0056	mg/L		03/06/19 16:52	03/07/19 15:05	1
Barium	ND		0.0020	0.00070	mg/L		03/06/19 16:52	03/07/19 15:05	1
Beryllium	ND		0.0020	0.00030	mg/L		03/06/19 16:52	03/07/19 15:05	1
Boron	ND		0.020	0.0040	mg/L		03/06/19 16:52	03/07/19 15:05	1
Cadmium	ND		0.0020	0.00050	mg/L		03/06/19 16:52	03/07/19 15:05	1
Calcium	ND		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 15:05	1
Chromium	ND		0.0040	0.0010	mg/L		03/06/19 16:52	03/07/19 15:05	1
Cobalt	ND		0.0040	0.00063	mg/L		03/06/19 16:52	03/07/19 15:05	1
Copper	ND		0.010	0.0016	mg/L		03/06/19 16:52	03/07/19 15:05	1
Iron	ND		0.050	0.019	mg/L		03/06/19 16:52	03/07/19 15:05	1
Lead	ND		0.010	0.0030	mg/L		03/06/19 16:52	03/07/19 15:05	1
Magnesium	ND		0.20	0.043	mg/L		03/06/19 16:52	03/07/19 15:05	1
Manganese	ND		0.0030	0.00040	mg/L		03/06/19 16:52	03/07/19 15:05	1
Nickel	ND		0.010	0.0013	mg/L		03/06/19 16:52	03/07/19 15:05	1
Potassium	ND		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 15:05	1
Selenium	ND		0.025	0.0087	mg/L		03/06/19 16:52	03/07/19 15:05	1
Silver	ND		0.0060	0.0017	mg/L		03/06/19 16:52	03/07/19 15:05	1
Sodium	ND		1.0	0.32	mg/L		03/06/19 16:52	03/07/19 15:05	1
Thallium	ND		0.020	0.010	mg/L		03/06/19 16:52	03/07/19 15:05	1
Vanadium	ND		0.0050	0.0015	mg/L		03/06/19 16:52	03/07/19 15:05	1
Zinc	ND		0.010	0.0015	mg/L		03/06/19 16:52	03/07/19 15:05	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/06/19 11:27	03/06/19 15:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			03/06/19 18:06	1
Chloride	ND		0.50	0.28	mg/L			03/06/19 18:06	1

Client Sample ID: 6-ONE-001-002-05

Lab Sample ID: 480-149715-5

Date Collected: 03/04/19 14:00

Matrix: Water

Date Received: 03/05/19 01:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			03/06/19 18:06	1
Ammonia	ND		0.020	0.0090	mg/L			03/08/19 10:06	1
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			03/12/19 10:00	1
Total Organic Carbon	ND		1.0	0.43	mg/L			03/11/19 03:19	1
Alkalinity, Total	ND		5.0	0.79	mg/L			03/12/19 22:21	1
Total hardness as CaCO3	ND		4.0	1.1	mg/L			03/13/19 13:13	1
Total Dissolved Solids	ND		10.0	4.0	mg/L			03/06/19 08:24	1

Client Sample ID: 6-ONE-001-002-06

Lab Sample ID: 480-149715-6

Date Collected: 03/04/19 14:10

Matrix: Water

Date Received: 03/05/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		18	2.6	ng/L		03/11/19 14:18	03/21/19 06:55	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		18	4.1	ng/L		03/11/19 14:18	03/21/19 06:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.3	ng/L		03/11/19 14:18	03/21/19 06:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	1.5	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.43	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorobutanoic acid (PFBA)	ND		1.8	0.89	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.80	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.68	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.52	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.84	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.81	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.71	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.67	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.57	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.54	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.56	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.56	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.81	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.53	ng/L		03/11/19 14:18	03/21/19 06:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.47	ng/L		03/11/19 14:18	03/21/19 06:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*107*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C2 PFHxA	*88*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C2 PFUnA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C2 PFTeDA	*89*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C3 PFBS	*88*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C4 PFBA	*74*		*25 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C4 PFOA	*98*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C4 PFOS	*81*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*
13C4 PFHpA	*91*		*50 - 150*	*03/11/19 14:18*	*03/21/19 06:55*	*1*

Client Sample ID: 6-ONE-001-002-06

Lab Sample ID: 480-149715-6

Date Collected: 03/04/19 14:10

Matrix: Water

Date Received: 03/05/19 01:00

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	106		50 - 150	03/11/19 14:18	03/21/19 06:55	1
13C5 PFPeA	103		25 - 150	03/11/19 14:18	03/21/19 06:55	1
13C8 FOSA	58		25 - 150	03/11/19 14:18	03/21/19 06:55	1
18O2 PFHxS	69		50 - 150	03/11/19 14:18	03/21/19 06:55	1
d3-NMeFOSAA	80		50 - 150	03/11/19 14:18	03/21/19 06:55	1
d5-NEtFOSAA	91		50 - 150	03/11/19 14:18	03/21/19 06:55	1
M2-6:2 FTS	102		25 - 150	03/11/19 14:18	03/21/19 06:55	1
M2-8:2 FTS	120		25 - 150	03/11/19 14:18	03/21/19 06:55	1

Client Sample ID: 6-ONE-001-002-07a

Lab Sample ID: 480-149715-7

Date Collected: 03/04/19 00:00

Matrix: Water

Date Received: 03/05/19 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			03/07/19 11:18	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/07/19 11:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/07/19 11:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/07/19 11:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/07/19 11:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/07/19 11:18	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/07/19 11:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/07/19 11:18	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/07/19 11:18	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/07/19 11:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/07/19 11:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/07/19 11:18	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/07/19 11:18	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/07/19 11:18	1
2-Hexanone	ND		5.0	1.2	ug/L			03/07/19 11:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/07/19 11:18	1
Acetone	ND		10	3.0	ug/L			03/07/19 11:18	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/07/19 11:18	1
Benzene	ND		1.0	0.41	ug/L			03/07/19 11:18	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/07/19 11:18	1
Bromoform	ND		1.0	0.26	ug/L			03/07/19 11:18	1
Bromomethane	ND		1.0	0.69	ug/L			03/07/19 11:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/07/19 11:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/07/19 11:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/07/19 11:18	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/07/19 11:18	1
Chloroethane	ND		1.0	0.32	ug/L			03/07/19 11:18	1
Chloroform	ND		1.0	0.34	ug/L			03/07/19 11:18	1
Chloromethane	ND		1.0	0.35	ug/L			03/07/19 11:18	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/07/19 11:18	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/07/19 11:18	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/07/19 11:18	1
Dibromomethane	ND		1.0	0.41	ug/L			03/07/19 11:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/07/19 11:18	1
Iodomethane	ND		1.0	0.30	ug/L			03/07/19 11:18	1

Client Sample ID: 6-ONE-001-002-07a

Lab Sample ID: 480-149715-7

Date Collected: 03/04/19 00:00

Matrix: Water

Date Received: 03/05/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0	0.66	ug/L			03/07/19 11:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/07/19 11:18	1
o-Xylene	ND		1.0	0.76	ug/L			03/07/19 11:18	1
Styrene	ND		1.0	0.73	ug/L			03/07/19 11:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/07/19 11:18	1
Toluene	ND		1.0	0.51	ug/L			03/07/19 11:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/07/19 11:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/07/19 11:18	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/07/19 11:18	1
Trichloroethene	ND		1.0	0.46	ug/L			03/07/19 11:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/07/19 11:18	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/07/19 11:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/07/19 11:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/07/19 11:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*03/07/19 11:18*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*03/07/19 11:18*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/07/19 11:18*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/07/19 11:18*	*1*

Client Sample ID: 6-ONE-001-002-07b

Lab Sample ID: 480-149715-8

Date Collected: 03/04/19 00:00

Matrix: Water

Date Received: 03/05/19 01:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			03/07/19 11:45	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/07/19 11:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/07/19 11:45	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/07/19 11:45	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/07/19 11:45	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/07/19 11:45	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/07/19 11:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/07/19 11:45	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/07/19 11:45	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/07/19 11:45	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/07/19 11:45	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/07/19 11:45	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/07/19 11:45	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/07/19 11:45	1
2-Hexanone	ND		5.0	1.2	ug/L			03/07/19 11:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/07/19 11:45	1
Acetone	ND		10	3.0	ug/L			03/07/19 11:45	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/07/19 11:45	1
Benzene	ND		1.0	0.41	ug/L			03/07/19 11:45	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/07/19 11:45	1
Bromoform	ND		1.0	0.26	ug/L			03/07/19 11:45	1
Bromomethane	ND		1.0	0.69	ug/L			03/07/19 11:45	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/07/19 11:45	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-07b
Date Collected: 03/04/19 00:00
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/07/19 11:45	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/07/19 11:45	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/07/19 11:45	1
Chloroethane	ND		1.0	0.32	ug/L			03/07/19 11:45	1
Chloroform	ND		1.0	0.34	ug/L			03/07/19 11:45	1
Chloromethane	ND		1.0	0.35	ug/L			03/07/19 11:45	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/07/19 11:45	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/07/19 11:45	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/07/19 11:45	1
Dibromomethane	ND		1.0	0.41	ug/L			03/07/19 11:45	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/07/19 11:45	1
Iodomethane	ND		1.0	0.30	ug/L			03/07/19 11:45	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/07/19 11:45	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/07/19 11:45	1
o-Xylene	ND		1.0	0.76	ug/L			03/07/19 11:45	1
Styrene	ND		1.0	0.73	ug/L			03/07/19 11:45	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/07/19 11:45	1
Toluene	ND		1.0	0.51	ug/L			03/07/19 11:45	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/07/19 11:45	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/07/19 11:45	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/07/19 11:45	1
Trichloroethene	ND		1.0	0.46	ug/L			03/07/19 11:45	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/07/19 11:45	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/07/19 11:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/07/19 11:45	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/07/19 11:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*03/07/19 11:45*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*03/07/19 11:45*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*03/07/19 11:45*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/07/19 11:45*	*1*

Surrogate Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Method: 8260C - Volatile Organic Compounds by GC/MS

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-149715-1	6-ONE-001-002-01	95	97	95	100
480-149715-2	6-ONE-001-002-02	101	101	99	98
480-149715-3	6-ONE-001-002-03	98	97	96	97
480-149715-4	6-ONE-001-002-04	96	96	98	100
480-149715-5	6-ONE-001-002-05	101	98	101	99
480-149715-7	6-ONE-001-002-07a	99	98	96	100
480-149715-8	6-ONE-001-002-07b	101	99	98	100
LCS 480-461901/6	Lab Control Sample	98	101	97	100
LCS 480-461918/5	Lab Control Sample	100	96	100	102
MB 480-461901/8	Method Blank	98	98	94	101
MB 480-461918/7	Method Blank	101	99	99	100

Surrogate Legend

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

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

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

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-149715-1	6-ONE-001-002-01	93	87	62
480-149715-2	6-ONE-001-002-02	96	91	63
480-149715-3	6-ONE-001-002-03	92	85	70
480-149715-4	6-ONE-001-002-04	97	92	49
480-149715-5	6-ONE-001-002-05	96	88	86
LCS 480-461926/2-A	Lab Control Sample	87	87	90
LCSD 480-461926/3-A	Lab Control Sample Dup	82	84	91
MB 480-461926/1-A	Method Blank	91	85	102

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHd14 = p-Terphenyl-d14

Isotope Dilution Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		DXE							
Lab Sample ID	Client Sample ID	(15-110)							
480-149715-1	6-ONE-001-002-01	37							
480-149715-2	6-ONE-001-002-02	37							
480-149715-3	6-ONE-001-002-03	30							
480-149715-4	6-ONE-001-002-04	31							
480-149715-5	6-ONE-001-002-05	28							
LCS 480-461844/2-A	Lab Control Sample	33							
LCSD 480-461844/3-A	Lab Control Sample Dup	35							
MB 480-461844/1-A	Method Blank	31							

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDA	PFDoA	PFHxA	PFUnA	PFTDA	3C3-PFBS	PFBA	PFOA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(25-150)	(50-150)
480-149715-1	6-ONE-001-002-01	140	118	48 *	139	95	43 *	24 *	108
480-149715-2	6-ONE-001-002-02	144	131	54	137	100	36 *	27	93
480-149715-3	6-ONE-001-002-03	116	117	45 *	113	92	44 *	20 *	111
480-149715-4	6-ONE-001-002-04	92	99	49 *	106	89	43 *	41	114
480-149715-5	6-ONE-001-002-05	109	89	99	101	87	78	61	104
480-149715-6	6-ONE-001-002-06	107	95	88	95	89	88	74	98
LCS 200-140731/2-A	Lab Control Sample	111	102	94	98	96	69	71	99
MB 200-140731/1-A	Method Blank	110	95	96	100	88	71	60	107

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOS	PFHpA	PFNA	PFPeA	PFOSA	PFHxS	-NMeFOSA	-NEtFOSA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(25-150)	(25-150)	(50-150)	(50-150)	(50-150)
480-149715-1	6-ONE-001-002-01	104	85	125	56	101	89	91	109
480-149715-2	6-ONE-001-002-02	133	88	133	43	95	49 *	91	98
480-149715-3	6-ONE-001-002-03	110	85	110	27	73	56	86	108
480-149715-4	6-ONE-001-002-04	83	82	107	29	70	34 *	70	85
480-149715-5	6-ONE-001-002-05	90	104	106	104	55	74	84	86
480-149715-6	6-ONE-001-002-06	81	91	106	103	58	69	80	91
LCS 200-140731/2-A	Lab Control Sample	88	100	105	102	62	84	86	95
MB 200-140731/1-A	Method Blank	78	98	102	89	55	70	87	95

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M262FTS	M282FTS						
Lab Sample ID	Client Sample ID	(25-150)	(25-150)						
480-149715-1	6-ONE-001-002-01	171 *	137						
480-149715-2	6-ONE-001-002-02	157 *	180 *						
480-149715-3	6-ONE-001-002-03	142	114						
480-149715-4	6-ONE-001-002-04	122	128						
480-149715-5	6-ONE-001-002-05	94	123						
480-149715-6	6-ONE-001-002-06	102	120						
LCS 200-140731/2-A	Lab Control Sample	112	134						
MB 200-140731/1-A	Method Blank	106	132						

Isotope Dilution Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Surrogate Legend

PFDA = 13C2 PFDA
PFDoA = 13C2 PFDoA
PFHxA = 13C2 PFHxA
PFUnA = 13C2 PFUnA
PFTDA = 13C2 PFTeDA
13C3-PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
PFOA = 13C4 PFOA
PFOS = 13C4 PFOS
PFHpA = 13C4 PFHpA
PFNA = 13C5 PFNA
PFPeA = 13C5 PFPeA
PFOSA = 13C8 FOSA
PFHxS = 18O2 PFHxS
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-461901/8
Matrix: Water
Analysis Batch: 461901

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	0.35	ug/L			03/06/19 23:46	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/06/19 23:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/06/19 23:46	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/06/19 23:46	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/06/19 23:46	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/06/19 23:46	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/06/19 23:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/06/19 23:46	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/06/19 23:46	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/06/19 23:46	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/06/19 23:46	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/06/19 23:46	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/06/19 23:46	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/06/19 23:46	1
2-Hexanone	ND		5.0	1.2	ug/L			03/06/19 23:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/06/19 23:46	1
Acetone	ND		10	3.0	ug/L			03/06/19 23:46	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/06/19 23:46	1
Benzene	ND		1.0	0.41	ug/L			03/06/19 23:46	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/06/19 23:46	1
Bromoform	ND		1.0	0.26	ug/L			03/06/19 23:46	1
Bromomethane	ND		1.0	0.69	ug/L			03/06/19 23:46	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/06/19 23:46	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/06/19 23:46	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/06/19 23:46	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/06/19 23:46	1
Chloroethane	ND		1.0	0.32	ug/L			03/06/19 23:46	1
Chloroform	ND		1.0	0.34	ug/L			03/06/19 23:46	1
Chloromethane	ND		1.0	0.35	ug/L			03/06/19 23:46	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/06/19 23:46	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/06/19 23:46	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/06/19 23:46	1
Dibromomethane	ND		1.0	0.41	ug/L			03/06/19 23:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/06/19 23:46	1
Iodomethane	ND		1.0	0.30	ug/L			03/06/19 23:46	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/06/19 23:46	1
Methylene Chloride	0.640	J	1.0	0.44	ug/L			03/06/19 23:46	1
o-Xylene	ND		1.0	0.76	ug/L			03/06/19 23:46	1
Styrene	ND		1.0	0.73	ug/L			03/06/19 23:46	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/06/19 23:46	1
Toluene	ND		1.0	0.51	ug/L			03/06/19 23:46	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/06/19 23:46	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/06/19 23:46	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/06/19 23:46	1
Trichloroethene	ND		1.0	0.46	ug/L			03/06/19 23:46	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/06/19 23:46	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/06/19 23:46	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/06/19 23:46	1

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

Lab Sample ID: MB 480-461901/8
Matrix: Water
Analysis Batch: 461901

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		2.0	0.66	ug/L			03/06/19 23:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*03/06/19 23:46*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*03/06/19 23:46*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*03/06/19 23:46*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/06/19 23:46*	*1*

Lab Sample ID: LCS 480-461901/6
Matrix: Water
Analysis Batch: 461901

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	24.6		ug/L		98	80 - 120
1,1,1-Trichloroethane	25.0	24.3		ug/L		97	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.4		ug/L		98	76 - 120
1,1,2-Trichloroethane	25.0	24.2		ug/L		97	76 - 122
1,1-Dichloroethane	25.0	23.9		ug/L		95	77 - 120
1,1-Dichloroethene	25.0	24.2		ug/L		97	66 - 127
1,2,3-Trichloropropane	25.0	24.0		ug/L		96	68 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.9		ug/L		104	56 - 134
1,2-Dibromoethane	25.0	25.0		ug/L		100	77 - 120
1,2-Dichlorobenzene	25.0	23.9		ug/L		95	80 - 124
1,2-Dichloroethane	25.0	22.5		ug/L		90	75 - 120
1,2-Dichloropropane	25.0	24.8		ug/L		99	76 - 120
1,4-Dichlorobenzene	25.0	23.9		ug/L		96	80 - 120
2-Butanone (MEK)	125	118		ug/L		95	57 - 140
2-Hexanone	125	120		ug/L		96	65 - 127
4-Methyl-2-pentanone (MIBK)	125	125		ug/L		100	71 - 125
Acetone	125	118		ug/L		95	56 - 142
Acrylonitrile	250	229		ug/L		92	63 - 125
Benzene	25.0	23.8		ug/L		95	71 - 124
Bromodichloromethane	25.0	24.5		ug/L		98	80 - 122
Bromoform	25.0	26.2		ug/L		105	61 - 132
Bromomethane	25.0	20.5		ug/L		82	55 - 144
Carbon disulfide	25.0	24.4		ug/L		97	59 - 134
Carbon tetrachloride	25.0	25.3		ug/L		101	72 - 134
Chlorobenzene	25.0	23.4		ug/L		94	80 - 120
Chlorobromomethane	25.0	23.3		ug/L		93	72 - 130
Chloroethane	25.0	21.7		ug/L		87	69 - 136
Chloroform	25.0	22.7		ug/L		91	73 - 127
Chloromethane	25.0	20.8		ug/L		83	68 - 124
cis-1,2-Dichloroethene	25.0	23.6		ug/L		94	74 - 124
cis-1,3-Dichloropropene	25.0	25.8		ug/L		103	74 - 124
Dibromochloromethane	25.0	25.3		ug/L		101	75 - 125
Dibromomethane	25.0	23.8		ug/L		95	76 - 127
Ethylbenzene	25.0	25.1		ug/L		100	77 - 123
Iodomethane	25.0	22.6		ug/L		91	78 - 123

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

Lab Sample ID: LCS 480-461901/6
Matrix: Water
Analysis Batch: 461901

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m,p-Xylene	25.0	24.4		ug/L		98	76 - 122
Methylene Chloride	25.0	25.2		ug/L		101	75 - 124
o-Xylene	25.0	24.8		ug/L		99	76 - 122
Styrene	25.0	25.3		ug/L		101	80 - 120
Tetrachloroethene	25.0	23.9		ug/L		96	74 - 122
Toluene	25.0	24.0		ug/L		96	80 - 122
trans-1,2-Dichloroethene	25.0	23.8		ug/L		95	73 - 127
trans-1,3-Dichloropropene	25.0	26.2		ug/L		105	80 - 120
trans-1,4-Dichloro-2-butene	25.0	25.2		ug/L		101	41 - 131
Trichloroethene	25.0	24.5		ug/L		98	74 - 123
Trichlorofluoromethane	25.0	23.4		ug/L		94	62 - 150
Vinyl acetate	50.0	47.4		ug/L		95	50 - 144
Vinyl chloride	25.0	22.2		ug/L		89	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*
Dibromofluoromethane (Surr)	*97*		*75 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 480-461918/7
Matrix: Water
Analysis Batch: 461918

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	0.35	ug/L			03/07/19 10:42	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/07/19 10:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/07/19 10:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/07/19 10:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/07/19 10:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/07/19 10:42	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/07/19 10:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/07/19 10:42	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/07/19 10:42	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/07/19 10:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/07/19 10:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/07/19 10:42	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/07/19 10:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/07/19 10:42	1
2-Hexanone	ND		5.0	1.2	ug/L			03/07/19 10:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/07/19 10:42	1
Acetone	ND		10	3.0	ug/L			03/07/19 10:42	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/07/19 10:42	1
Benzene	ND		1.0	0.41	ug/L			03/07/19 10:42	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/07/19 10:42	1
Bromoform	ND		1.0	0.26	ug/L			03/07/19 10:42	1
Bromomethane	ND		1.0	0.69	ug/L			03/07/19 10:42	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/07/19 10:42	1

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

Lab Sample ID: MB 480-461918/7
Matrix: Water
Analysis Batch: 461918

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/07/19 10:42	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/07/19 10:42	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/07/19 10:42	1
Chloroethane	ND		1.0	0.32	ug/L			03/07/19 10:42	1
Chloroform	ND		1.0	0.34	ug/L			03/07/19 10:42	1
Chloromethane	ND		1.0	0.35	ug/L			03/07/19 10:42	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/07/19 10:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/07/19 10:42	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/07/19 10:42	1
Dibromomethane	ND		1.0	0.41	ug/L			03/07/19 10:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/07/19 10:42	1
Iodomethane	ND		1.0	0.30	ug/L			03/07/19 10:42	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/07/19 10:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/07/19 10:42	1
o-Xylene	ND		1.0	0.76	ug/L			03/07/19 10:42	1
Styrene	ND		1.0	0.73	ug/L			03/07/19 10:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/07/19 10:42	1
Toluene	ND		1.0	0.51	ug/L			03/07/19 10:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/07/19 10:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/07/19 10:42	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/07/19 10:42	1
Trichloroethene	ND		1.0	0.46	ug/L			03/07/19 10:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/07/19 10:42	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/07/19 10:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/07/19 10:42	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/07/19 10:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*03/07/19 10:42*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*03/07/19 10:42*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/07/19 10:42*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/07/19 10:42*	*1*

Lab Sample ID: LCS 480-461918/5
Matrix: Water
Analysis Batch: 461918

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	26.9		ug/L		108	80 - 120
1,1,1-Trichloroethane	25.0	26.0		ug/L		104	73 - 126
1,1,2,2-Tetrachloroethane	25.0	27.0		ug/L		108	76 - 120
1,1,2-Trichloroethane	25.0	25.9		ug/L		104	76 - 122
1,1-Dichloroethane	25.0	25.4		ug/L		101	77 - 120
1,1-Dichloroethene	25.0	24.8		ug/L		99	66 - 127
1,2,3-Trichloropropane	25.0	25.5		ug/L		102	68 - 122
1,2-Dibromo-3-Chloropropane	25.0	26.6		ug/L		106	56 - 134
1,2-Dibromoethane	25.0	25.7		ug/L		103	77 - 120
1,2-Dichlorobenzene	25.0	25.5		ug/L		102	80 - 124

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

Lab Sample ID: LCS 480-461918/5
Matrix: Water
Analysis Batch: 461918

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	25.0	24.2		ug/L		97	75 - 120
1,2-Dichloropropane	25.0	26.0		ug/L		104	76 - 120
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	80 - 120
2-Butanone (MEK)	125	124		ug/L		99	57 - 140
2-Hexanone	125	121		ug/L		97	65 - 127
4-Methyl-2-pentanone (MIBK)	125	131		ug/L		105	71 - 125
Acetone	125	118		ug/L		94	56 - 142
Acrylonitrile	250	249		ug/L		100	63 - 125
Benzene	25.0	25.6		ug/L		102	71 - 124
Bromodichloromethane	25.0	26.0		ug/L		104	80 - 122
Bromoform	25.0	27.2		ug/L		109	61 - 132
Bromomethane	25.0	22.0		ug/L		88	55 - 144
Carbon disulfide	25.0	25.3		ug/L		101	59 - 134
Carbon tetrachloride	25.0	25.7		ug/L		103	72 - 134
Chlorobenzene	25.0	25.5		ug/L		102	80 - 120
Chlorobromomethane	25.0	25.2		ug/L		101	72 - 130
Chloroethane	25.0	24.5		ug/L		98	69 - 136
Chloroform	25.0	24.6		ug/L		98	73 - 127
Chloromethane	25.0	23.4		ug/L		94	68 - 124
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	74 - 124
cis-1,3-Dichloropropene	25.0	27.7		ug/L		111	74 - 124
Dibromochloromethane	25.0	27.5		ug/L		110	75 - 125
Dibromomethane	25.0	26.3		ug/L		105	76 - 127
Ethylbenzene	25.0	26.1		ug/L		104	77 - 123
Iodomethane	25.0	24.4		ug/L		98	78 - 123
m,p-Xylene	25.0	25.4		ug/L		102	76 - 122
Methylene Chloride	25.0	25.6		ug/L		102	75 - 124
o-Xylene	25.0	26.7		ug/L		107	76 - 122
Styrene	25.0	27.1		ug/L		109	80 - 120
Tetrachloroethene	25.0	25.2		ug/L		101	74 - 122
Toluene	25.0	25.6		ug/L		102	80 - 122
trans-1,2-Dichloroethene	25.0	25.4		ug/L		101	73 - 127
trans-1,3-Dichloropropene	25.0	28.2		ug/L		113	80 - 120
trans-1,4-Dichloro-2-butene	25.0	27.3		ug/L		109	41 - 131
Trichloroethene	25.0	26.5		ug/L		106	74 - 123
Trichlorofluoromethane	25.0	25.6		ug/L		102	62 - 150
Vinyl acetate	50.0	53.1		ug/L		106	50 - 144
Vinyl chloride	25.0	24.9		ug/L		99	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-461844/1-A
Matrix: Water
Analysis Batch: 462442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		03/06/19 14:48	03/11/19 18:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*31*		*15 - 110*	*03/06/19 14:48*	*03/11/19 18:04*	*1*

Lab Sample ID: LCS 480-461844/2-A
Matrix: Water
Analysis Batch: 462442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461844

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.00	1.14		ug/L		114	40 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*33*		*15 - 110*

Lab Sample ID: LCSD 480-461844/3-A
Matrix: Water
Analysis Batch: 462442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 461844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			1.00	1.14		ug/L		114	40 - 140	0	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8	*35*		*15 - 110*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Lab Sample ID: MB 480-461926/1-A
Matrix: Water
Analysis Batch: 462181

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 17:38	1
Acenaphthylene	ND		0.50	0.34	ug/L		03/07/19 07:54	03/08/19 17:38	1
Anthracene	ND		0.50	0.39	ug/L		03/07/19 07:54	03/08/19 17:38	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		03/07/19 07:54	03/08/19 17:38	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 17:38	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		03/07/19 07:54	03/08/19 17:38	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 17:38	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		03/07/19 07:54	03/08/19 17:38	1
Chrysene	ND		0.50	0.32	ug/L		03/07/19 07:54	03/08/19 17:38	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		03/07/19 07:54	03/08/19 17:38	1
Fluoranthene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 17:38	1
Fluorene	ND		0.50	0.37	ug/L		03/07/19 07:54	03/08/19 17:38	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		03/07/19 07:54	03/08/19 17:38	1
Naphthalene	ND		0.50	0.42	ug/L		03/07/19 07:54	03/08/19 17:38	1
Phenanthrene	ND		0.50	0.38	ug/L		03/07/19 07:54	03/08/19 17:38	1
Pyrene	ND		0.50	0.36	ug/L		03/07/19 07:54	03/08/19 17:38	1

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: MB 480-461926/1-A
Matrix: Water
Analysis Batch: 462181

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461926

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	91		48 - 120	03/07/19 07:54	03/08/19 17:38	1
Nitrobenzene-d5	85		46 - 120	03/07/19 07:54	03/08/19 17:38	1
p-Terphenyl-d14	102		24 - 136	03/07/19 07:54	03/08/19 17:38	1

Lab Sample ID: LCS 480-461926/2-A
Matrix: Water
Analysis Batch: 462181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene			32.0	27.9		ug/L		87	60 - 120		
Acenaphthylene			32.0	28.9		ug/L		90	63 - 120		
Anthracene			32.0	29.1		ug/L		91	69 - 131		
Benzo[a]anthracene			32.0	26.5		ug/L		83	62 - 142		
Benzo[a]pyrene			32.0	28.2		ug/L		88	46 - 156		
Benzo[b]fluoranthene			32.0	29.1		ug/L		91	50 - 149		
Benzo[g,h,i]perylene			32.0	26.9		ug/L		84	34 - 189		
Benzo[k]fluoranthene			32.0	28.3		ug/L		88	47 - 147		
Chrysene			32.0	29.2		ug/L		91	69 - 140		
Dibenz(a,h)anthracene			32.0	28.5		ug/L		89	35 - 176		
Fluoranthene			32.0	28.3		ug/L		88	67 - 133		
Fluorene			32.0	29.3		ug/L		91	66 - 129		
Indeno[1,2,3-cd]pyrene			32.0	27.8		ug/L		87	57 - 161		
Naphthalene			32.0	25.9		ug/L		81	48 - 120		
Phenanthrene			32.0	28.4		ug/L		89	67 - 130		
Pyrene			32.0	30.3		ug/L		95	58 - 136		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	87		48 - 120
Nitrobenzene-d5	87		46 - 120
p-Terphenyl-d14	90		24 - 136

Lab Sample ID: LCSD 480-461926/3-A
Matrix: Water
Analysis Batch: 462181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 461926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			32.0	26.9		ug/L		84	60 - 120	3	24
Acenaphthylene			32.0	28.2		ug/L		88	63 - 120	2	18
Anthracene			32.0	28.3		ug/L		89	69 - 131	3	15
Benzo[a]anthracene			32.0	27.3		ug/L		85	62 - 142	3	15
Benzo[a]pyrene			32.0	28.8		ug/L		90	46 - 156	2	15
Benzo[b]fluoranthene			32.0	29.9		ug/L		94	50 - 149	3	15
Benzo[g,h,i]perylene			32.0	26.8		ug/L		84	34 - 189	0	15
Benzo[k]fluoranthene			32.0	28.8		ug/L		90	47 - 147	2	22
Chrysene			32.0	31.4		ug/L		98	69 - 140	7	15
Dibenz(a,h)anthracene			32.0	27.7		ug/L		86	35 - 176	3	15
Fluoranthene			32.0	27.9		ug/L		87	67 - 133	1	15
Fluorene			32.0	28.7		ug/L		90	66 - 129	2	15

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: LCSD 480-461926/3-A
Matrix: Water
Analysis Batch: 462181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 461926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno[1,2,3-cd]pyrene			32.0	27.8		ug/L		87	57 - 161	0	15
Naphthalene			32.0	24.4		ug/L		76	48 - 120	6	29
Phenanthrene			32.0	28.3		ug/L		88	67 - 130	1	15
Pyrene			32.0	30.2		ug/L		94	58 - 136	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*82*		*48 - 120*
Nitrobenzene-d5	*84*		*46 - 120*
p-Terphenyl-d14	*91*		*24 - 136*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-140731/1-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		20	2.9	ng/L		03/11/19 14:18	03/21/19 01:21	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		20	4.6	ng/L		03/11/19 14:18	03/21/19 01:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5	ng/L		03/11/19 14:18	03/21/19 01:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.49	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorobutanoic acid (PFBA)	ND		2.0	1.0	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.77	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.64	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.61	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.63	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60	ng/L		03/11/19 14:18	03/21/19 01:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53	ng/L		03/11/19 14:18	03/21/19 01:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*110*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFDoA	*95*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFHxA	*96*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*
13C2 PFUnA	*100*		*50 - 150*	*03/11/19 14:18*	*03/21/19 01:21*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 200-140731/1-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140731

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	88		50 - 150	03/11/19 14:18	03/21/19 01:21	1
13C3 PFBS	71		50 - 150	03/11/19 14:18	03/21/19 01:21	1
13C4 PFBA	60		25 - 150	03/11/19 14:18	03/21/19 01:21	1
13C4 PFOA	107		50 - 150	03/11/19 14:18	03/21/19 01:21	1
13C4 PFOS	78		50 - 150	03/11/19 14:18	03/21/19 01:21	1
13C4 PFHpA	98		50 - 150	03/11/19 14:18	03/21/19 01:21	1
13C5 PFNA	102		50 - 150	03/11/19 14:18	03/21/19 01:21	1
13C5 PFPeA	89		25 - 150	03/11/19 14:18	03/21/19 01:21	1
13C8 FOSA	55		25 - 150	03/11/19 14:18	03/21/19 01:21	1
18O2 PFHxS	70		50 - 150	03/11/19 14:18	03/21/19 01:21	1
d3-NMeFOSAA	87		50 - 150	03/11/19 14:18	03/21/19 01:21	1
d5-NEtFOSAA	95		50 - 150	03/11/19 14:18	03/21/19 01:21	1
M2-6:2 FTS	106		25 - 150	03/11/19 14:18	03/21/19 01:21	1
M2-8:2 FTS	132		25 - 150	03/11/19 14:18	03/21/19 01:21	1

Lab Sample ID: LCS 200-140731/2-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	40.7		ng/L		106	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	38.2		ng/L		101	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	35.5		ng/L		89	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.0		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	41.9		ng/L		118	70 - 130
Perfluorobutanoic acid (PFBA)	40.0	40.9		ng/L		102	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	32.3		ng/L		84	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	36.9		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	37.4		ng/L		93	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	33.7		ng/L		88	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	35.7		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.2		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	40.0	35.1		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	40.0	36.8		ng/L		92	70 - 130
Perfluorooctanesulfonamide (PFOSA)	40.0	34.3		ng/L		86	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	34.9		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	39.0		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	32.2		ng/L		81	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	38.2		ng/L		96	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 200-140731/2-A
Matrix: Water
Analysis Batch: 141014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140731

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorotridecanoic acid (PFTriA)			40.0	33.9		ng/L		85	70 - 130		
Perfluoroundecanoic acid (PFUnA)			40.0	39.5		ng/L		99	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*111*		*50 - 150*
13C2 PFDoA	*102*		*50 - 150*
13C2 PFHxA	*94*		*50 - 150*
13C2 PFUnA	*98*		*50 - 150*
13C2 PFTeDA	*96*		*50 - 150*
13C3 PFBS	*69*		*50 - 150*
13C4 PFBA	*71*		*25 - 150*
13C4 PFOA	*99*		*50 - 150*
13C4 PFOS	*88*		*50 - 150*
13C4 PFHpA	*100*		*50 - 150*
13C5 PFNA	*105*		*50 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C8 FOSA	*62*		*25 - 150*
18O2 PFHxS	*84*		*50 - 150*
d3-NMeFOSAA	*86*		*50 - 150*
d5-NEtFOSAA	*95*		*50 - 150*
M2-6:2 FTS	*112*		*25 - 150*
M2-8:2 FTS	*134*		*25 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-461869/1-A
Matrix: Water
Analysis Batch: 462121

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461869

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/06/19 16:52	03/07/19 14:16	1
Antimony	ND		0.020	0.0068	mg/L		03/06/19 16:52	03/07/19 14:16	1
Arsenic	ND		0.015	0.0056	mg/L		03/06/19 16:52	03/07/19 14:16	1
Barium	ND		0.0020	0.00070	mg/L		03/06/19 16:52	03/07/19 14:16	1
Beryllium	ND		0.0020	0.00030	mg/L		03/06/19 16:52	03/07/19 14:16	1
Boron	ND		0.020	0.0040	mg/L		03/06/19 16:52	03/07/19 14:16	1
Cadmium	ND		0.0020	0.00050	mg/L		03/06/19 16:52	03/07/19 14:16	1
Calcium	ND		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:16	1
Chromium	ND		0.0040	0.0010	mg/L		03/06/19 16:52	03/07/19 14:16	1
Cobalt	ND		0.0040	0.00063	mg/L		03/06/19 16:52	03/07/19 14:16	1
Copper	ND		0.010	0.0016	mg/L		03/06/19 16:52	03/07/19 14:16	1
Iron	0.0224	J	0.050	0.019	mg/L		03/06/19 16:52	03/07/19 14:16	1
Lead	ND		0.010	0.0030	mg/L		03/06/19 16:52	03/07/19 14:16	1
Magnesium	ND		0.20	0.043	mg/L		03/06/19 16:52	03/07/19 14:16	1
Manganese	ND		0.0030	0.00040	mg/L		03/06/19 16:52	03/07/19 14:16	1
Nickel	ND		0.010	0.0013	mg/L		03/06/19 16:52	03/07/19 14:16	1
Potassium	ND		0.50	0.10	mg/L		03/06/19 16:52	03/07/19 14:16	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-461869/1-A
Matrix: Water
Analysis Batch: 462121

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461869

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.025	0.0087	mg/L		03/06/19 16:52	03/07/19 14:16	1
Silver	ND		0.0060	0.0017	mg/L		03/06/19 16:52	03/07/19 14:16	1
Sodium	ND		1.0	0.32	mg/L		03/06/19 16:52	03/07/19 14:16	1
Thallium	ND		0.020	0.010	mg/L		03/06/19 16:52	03/07/19 14:16	1
Vanadium	ND		0.0050	0.0015	mg/L		03/06/19 16:52	03/07/19 14:16	1
Zinc	0.00155	J	0.010	0.0015	mg/L		03/06/19 16:52	03/07/19 14:16	1

Lab Sample ID: LCS 480-461869/2-A
Matrix: Water
Analysis Batch: 462121

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461869

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	9.89		mg/L		99	80 - 120
Antimony	0.200	0.202		mg/L		101	80 - 120
Arsenic	0.200	0.210		mg/L		105	80 - 120
Barium	0.200	0.201		mg/L		100	80 - 120
Beryllium	0.200	0.208		mg/L		104	80 - 120
Boron	0.200	0.202		mg/L		101	80 - 120
Cadmium	0.200	0.202		mg/L		101	80 - 120
Calcium	10.0	10.21		mg/L		102	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Cobalt	0.200	0.197		mg/L		98	80 - 120
Copper	0.200	0.200		mg/L		100	80 - 120
Iron	10.0	10.07		mg/L		101	80 - 120
Lead	0.200	0.199		mg/L		99	80 - 120
Magnesium	10.0	10.16		mg/L		102	80 - 120
Manganese	0.200	0.201		mg/L		100	80 - 120
Nickel	0.200	0.207		mg/L		103	80 - 120
Potassium	10.0	9.99		mg/L		100	80 - 120
Selenium	0.200	0.208		mg/L		104	80 - 120
Silver	0.0500	0.0505		mg/L		101	80 - 120
Sodium	10.0	9.85		mg/L		98	80 - 120
Thallium	0.200	0.204		mg/L		102	80 - 120
Vanadium	0.200	0.204		mg/L		102	80 - 120
Zinc	0.200	0.212		mg/L		106	80 - 120

Lab Sample ID: 480-149715-1 MS
Matrix: Water
Analysis Batch: 462121

Client Sample ID: 6-ONE-001-002-01
Prep Type: Total/NA
Prep Batch: 461869

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	ND		10.0	9.71		mg/L		97	75 - 125
Antimony	ND		0.200	0.192		mg/L		96	75 - 125
Arsenic	ND		0.200	0.210		mg/L		105	75 - 125
Barium	1.0		0.200	1.23	4	mg/L		106	75 - 125
Beryllium	ND		0.200	0.202		mg/L		101	75 - 125
Boron	0.92		0.200	1.14	4	mg/L		110	75 - 125
Cadmium	0.00081	J	0.200	0.199		mg/L		99	75 - 125
Calcium	232		10.0	245.5	4	mg/L		136	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-149715-1 MS — **Client Sample ID: 6-ONE-001-002-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462121 — **Prep Batch: 461869**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.0015	J	0.200	0.198		mg/L		98	75 - 125
Cobalt	0.0012	J	0.200	0.195		mg/L		97	75 - 125
Copper	ND		0.200	0.192		mg/L		96	75 - 125
Iron	37.4	B	10.0	47.23		mg/L		98	75 - 125
Lead	ND		0.200	0.200		mg/L		100	75 - 125
Magnesium	90.8		10.0	103.8	4	mg/L		129	75 - 125
Manganese	0.28		0.200	0.483		mg/L		99	75 - 125
Nickel	ND		0.200	0.202		mg/L		101	75 - 125
Potassium	30.5		10.0	41.44		mg/L		109	75 - 125
Selenium	ND		0.200	0.198		mg/L		99	75 - 125
Silver	ND		0.0500	0.0500		mg/L		100	75 - 125
Sodium	24.8		10.0	35.20		mg/L		104	75 - 125
Thallium	ND		0.200	0.199		mg/L		100	75 - 125
Vanadium	ND		0.200	0.198		mg/L		99	75 - 125
Zinc	0.0040	J B	0.200	0.202		mg/L		99	75 - 125

Lab Sample ID: 480-149715-1 MSD — **Client Sample ID: 6-ONE-001-002-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462121 — **Prep Batch: 461869**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	ND		10.0	9.71		mg/L		97	75 - 125	0	20
Antimony	ND		0.200	0.195		mg/L		97	75 - 125	1	20
Arsenic	ND		0.200	0.212		mg/L		106	75 - 125	1	20
Barium	1.0		0.200	1.21	4	mg/L		93	75 - 125	2	20
Beryllium	ND		0.200	0.202		mg/L		101	75 - 125	0	20
Boron	0.92		0.200	1.12	4	mg/L		101	75 - 125	2	20
Cadmium	0.00081	J	0.200	0.202		mg/L		100	75 - 125	1	20
Calcium	232		10.0	238.7	4	mg/L		68	75 - 125	3	20
Chromium	0.0015	J	0.200	0.197		mg/L		98	75 - 125	0	20
Cobalt	0.0012	J	0.200	0.196		mg/L		98	75 - 125	1	20
Copper	ND		0.200	0.196		mg/L		98	75 - 125	2	20
Iron	37.4	B	10.0	46.86		mg/L		94	75 - 125	1	20
Lead	ND		0.200	0.202		mg/L		101	75 - 125	1	20
Magnesium	90.8		10.0	100.9	4	mg/L		101	75 - 125	3	20
Manganese	0.28		0.200	0.474		mg/L		95	75 - 125	2	20
Nickel	ND		0.200	0.203		mg/L		101	75 - 125	1	20
Potassium	30.5		10.0	40.29		mg/L		98	75 - 125	3	20
Selenium	ND		0.200	0.205		mg/L		102	75 - 125	3	20
Silver	ND		0.0500	0.0508		mg/L		102	75 - 125	2	20
Sodium	24.8		10.0	34.59		mg/L		98	75 - 125	2	20
Thallium	ND		0.200	0.201		mg/L		101	75 - 125	1	20
Vanadium	ND		0.200	0.198		mg/L		99	75 - 125	0	20
Zinc	0.0040	J B	0.200	0.197		mg/L		97	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-461774/1-A
Matrix: Water
Analysis Batch: 461862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/06/19 11:27	03/06/19 15:00	1

Lab Sample ID: LCS 480-461774/2-A
Matrix: Water
Analysis Batch: 461862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461774

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00672		mg/L		101	80 - 120

Lab Sample ID: 480-149715-5 MS
Matrix: Water
Analysis Batch: 461862

Client Sample ID: 6-ONE-001-002-05
Prep Type: Total/NA
Prep Batch: 461774

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00672		mg/L		101	80 - 120

Lab Sample ID: 480-149715-5 MSD
Matrix: Water
Analysis Batch: 461862

Client Sample ID: 6-ONE-001-002-05
Prep Type: Total/NA
Prep Batch: 461774

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00682		mg/L		102	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-461778/4
Matrix: Water
Analysis Batch: 461778

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			03/06/19 13:43	1
Chloride	ND		0.50	0.28	mg/L			03/06/19 13:43	1
Sulfate	ND		2.0	0.35	mg/L			03/06/19 13:43	1

Lab Sample ID: LCS 480-461778/3
Matrix: Water
Analysis Batch: 461778

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.98		mg/L		100	90 - 110
Chloride	50.0	48.62		mg/L		97	90 - 110
Sulfate	50.0	47.85		mg/L		96	90 - 110

Lab Sample ID: MB 480-461964/4
Matrix: Water
Analysis Batch: 461964

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			03/07/19 11:04	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-461964/4
Matrix: Water
Analysis Batch: 461964

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	0.28	mg/L			03/07/19 11:04	1
Sulfate	ND		2.0	0.35	mg/L			03/07/19 11:04	1

Lab Sample ID: LCS 480-461964/3
Matrix: Water
Analysis Batch: 461964

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.00		mg/L		100	90 - 110
Chloride	50.0	48.69		mg/L		97	90 - 110
Sulfate	50.0	48.48		mg/L		97	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-462182/123
Matrix: Water
Analysis Batch: 462182

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			03/08/19 11:41	1

Lab Sample ID: MB 480-462182/3
Matrix: Water
Analysis Batch: 462182

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			03/08/19 09:58	1

Lab Sample ID: MB 480-462182/75
Matrix: Water
Analysis Batch: 462182

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			03/08/19 11:00	1

Lab Sample ID: MB 480-462182/99
Matrix: Water
Analysis Batch: 462182

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			03/08/19 11:20	1

Lab Sample ID: LCS 480-462182/100
Matrix: Water
Analysis Batch: 462182

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

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

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-462182/124
Matrix: Water
Analysis Batch: 462182

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.983		mg/L		98	90 - 110

Lab Sample ID: LCS 480-462182/4
Matrix: Water
Analysis Batch: 462182

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.997		mg/L		100	90 - 110

Lab Sample ID: LCS 480-462182/76
Matrix: Water
Analysis Batch: 462182

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.982		mg/L		98	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-462576/27
Matrix: Water
Analysis Batch: 462576

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			03/12/19 10:00	1

Lab Sample ID: MB 480-462576/3
Matrix: Water
Analysis Batch: 462576

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			03/12/19 10:00	1

Lab Sample ID: LCS 480-462576/28
Matrix: Water
Analysis Batch: 462576

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.09		mg/L		104	90 - 110

Lab Sample ID: LCS 480-462576/4
Matrix: Water
Analysis Batch: 462576

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	27.10		mg/L		108	90 - 110

Method: 410.4 - COD (Continued)

Lab Sample ID: 480-149715-1 MS
Matrix: Water
Analysis Batch: 462576

Client Sample ID: 6-ONE-001-002-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	78.9		50.0	130.1		mg/L		102	75 - 125

Lab Sample ID: 480-149715-5 MS
Matrix: Water
Analysis Batch: 462576

Client Sample ID: 6-ONE-001-002-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		50.0	56.18		mg/L		112	75 - 125

Lab Sample ID: 480-149715-4 DU
Matrix: Water
Analysis Batch: 462576

Client Sample ID: 6-ONE-001-002-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chemical Oxygen Demand	69.6		66.21		mg/L		5	20

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

Lab Sample ID: MB 480-462627/51
Matrix: Water
Analysis Batch: 462627

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			03/10/19 14:18	1

Lab Sample ID: MB 480-462627/75
Matrix: Water
Analysis Batch: 462627

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.43	mg/L			03/11/19 02:20	1

Lab Sample ID: LCS 480-462627/52
Matrix: Water
Analysis Batch: 462627

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	60.0	60.55		mg/L		101	90 - 110

Lab Sample ID: LCS 480-462627/76
Matrix: Water
Analysis Batch: 462627

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	60.0	60.83		mg/L		101	90 - 110

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

Lab Sample ID: 480-149715-5 MS — **Client Sample ID: 6-ONE-001-002-05**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462627

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	ND		22.7	21.93		mg/L		96	54 - 131

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-462742/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462742

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L			03/12/19 20:53	1

Lab Sample ID: LCS 480-462742/8 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462742

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	95.06		mg/L		95	90 - 110

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 480-462825/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462825

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			03/13/19 13:13	1

Lab Sample ID: LCS 480-462825/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462825

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	271	260.0		mg/L		96	90 - 110

Lab Sample ID: 480-149715-5 DU — **Client Sample ID: 6-ONE-001-002-05**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 462825

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total hardness as CaCO3	ND		ND		mg/L		NC	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-461720/1
Matrix: Water
Analysis Batch: 461720

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8.00	J	10.0	4.0	mg/L			03/06/19 08:24	1

Lab Sample ID: LCS 480-461720/2
Matrix: Water
Analysis Batch: 461720

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	508.0		mg/L		101	85 - 115

GC/MS VOA

Analysis Batch: 461901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	8260C	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	8260C	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	8260C	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	8260C	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	8260C	
MB 480-461901/8	Method Blank	Total/NA	Water	8260C	
LCS 480-461901/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 461918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-7	6-ONE-001-002-07a	Total/NA	Water	8260C	
480-149715-8	6-ONE-001-002-07b	Total/NA	Water	8260C	
MB 480-461918/7	Method Blank	Total/NA	Water	8260C	
LCS 480-461918/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 461844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	3510C	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	3510C	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	3510C	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	3510C	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	3510C	
MB 480-461844/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-461844/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-461844/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 461926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	3510C	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	3510C	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	3510C	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	3510C	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	3510C	
MB 480-461926/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-461926/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-461926/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 462181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	8270D_LL_PAH	461926
480-149715-2	6-ONE-001-002-02	Total/NA	Water	8270D_LL_PAH	461926
480-149715-3	6-ONE-001-002-03	Total/NA	Water	8270D_LL_PAH	461926
480-149715-4	6-ONE-001-002-04	Total/NA	Water	8270D_LL_PAH	461926
480-149715-5	6-ONE-001-002-05	Total/NA	Water	8270D_LL_PAH	461926
MB 480-461926/1-A	Method Blank	Total/NA	Water	8270D_LL_PAH	461926
LCS 480-461926/2-A	Lab Control Sample	Total/NA	Water	8270D_LL_PAH	461926
LCSD 480-461926/3-A	Lab Control Sample Dup	Total/NA	Water	8270D_LL_PAH	461926

GC/MS Semi VOA (Continued)

Analysis Batch: 462442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	8270D SIM ID	461844
480-149715-2	6-ONE-001-002-02	Total/NA	Water	8270D SIM ID	461844
480-149715-3	6-ONE-001-002-03	Total/NA	Water	8270D SIM ID	461844
480-149715-4	6-ONE-001-002-04	Total/NA	Water	8270D SIM ID	461844
480-149715-5	6-ONE-001-002-05	Total/NA	Water	8270D SIM ID	461844
MB 480-461844/1-A	Method Blank	Total/NA	Water	8270D SIM ID	461844
LCS 480-461844/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	461844
LCSD 480-461844/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM ID	461844

LCMS

Prep Batch: 140731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	3535	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	3535	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	3535	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	3535	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	3535	
480-149715-6	6-ONE-001-002-06	Total/NA	Water	3535	
MB 200-140731/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-140731/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 141014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	537 (modified)	140731
480-149715-2	6-ONE-001-002-02	Total/NA	Water	537 (modified)	140731
480-149715-3	6-ONE-001-002-03	Total/NA	Water	537 (modified)	140731
480-149715-4	6-ONE-001-002-04	Total/NA	Water	537 (modified)	140731
480-149715-5	6-ONE-001-002-05	Total/NA	Water	537 (modified)	140731
480-149715-6	6-ONE-001-002-06	Total/NA	Water	537 (modified)	140731
MB 200-140731/1-A	Method Blank	Total/NA	Water	537 (modified)	140731
LCS 200-140731/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	140731

Metals

Prep Batch: 461774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	7470A	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	7470A	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	7470A	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	7470A	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	7470A	
MB 480-461774/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-461774/2-A	Lab Control Sample	Total/NA	Water	7470A	
480-149715-5 MS	6-ONE-001-002-05	Total/NA	Water	7470A	
480-149715-5 MSD	6-ONE-001-002-05	Total/NA	Water	7470A	

Analysis Batch: 461862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	7470A	461774

Metals (Continued)

Analysis Batch: 461862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-2	6-ONE-001-002-02	Total/NA	Water	7470A	461774
480-149715-3	6-ONE-001-002-03	Total/NA	Water	7470A	461774
480-149715-4	6-ONE-001-002-04	Total/NA	Water	7470A	461774
480-149715-5	6-ONE-001-002-05	Total/NA	Water	7470A	461774
MB 480-461774/1-A	Method Blank	Total/NA	Water	7470A	461774
LCS 480-461774/2-A	Lab Control Sample	Total/NA	Water	7470A	461774
480-149715-5 MS	6-ONE-001-002-05	Total/NA	Water	7470A	461774
480-149715-5 MSD	6-ONE-001-002-05	Total/NA	Water	7470A	461774

Prep Batch: 461869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	3005A	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	3005A	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	3005A	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	3005A	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	3005A	
MB 480-461869/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-461869/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-149715-1 MS	6-ONE-001-002-01	Total/NA	Water	3005A	
480-149715-1 MSD	6-ONE-001-002-01	Total/NA	Water	3005A	

Analysis Batch: 462121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	6010C	461869
480-149715-2	6-ONE-001-002-02	Total/NA	Water	6010C	461869
480-149715-3	6-ONE-001-002-03	Total/NA	Water	6010C	461869
480-149715-4	6-ONE-001-002-04	Total/NA	Water	6010C	461869
480-149715-5	6-ONE-001-002-05	Total/NA	Water	6010C	461869
MB 480-461869/1-A	Method Blank	Total/NA	Water	6010C	461869
LCS 480-461869/2-A	Lab Control Sample	Total/NA	Water	6010C	461869
480-149715-1 MS	6-ONE-001-002-01	Total/NA	Water	6010C	461869
480-149715-1 MSD	6-ONE-001-002-01	Total/NA	Water	6010C	461869

General Chemistry

Analysis Batch: 461720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	SM 2540C	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	SM 2540C	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	SM 2540C	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	SM 2540C	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	SM 2540C	
MB 480-461720/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-461720/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 461778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-4	6-ONE-001-002-04	Total/NA	Water	300.0	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	300.0	
MB 480-461778/4	Method Blank	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 461778 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-461778/3	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 461964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	300.0	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	300.0	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	300.0	
MB 480-461964/4	Method Blank	Total/NA	Water	300.0	
LCS 480-461964/3	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 462182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	350.1	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	350.1	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	350.1	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	350.1	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	350.1	
MB 480-462182/123	Method Blank	Total/NA	Water	350.1	
MB 480-462182/3	Method Blank	Total/NA	Water	350.1	
MB 480-462182/75	Method Blank	Total/NA	Water	350.1	
MB 480-462182/99	Method Blank	Total/NA	Water	350.1	
LCS 480-462182/100	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-462182/124	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-462182/4	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-462182/76	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 462576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	410.4	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	410.4	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	410.4	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	410.4	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	410.4	
MB 480-462576/27	Method Blank	Total/NA	Water	410.4	
MB 480-462576/3	Method Blank	Total/NA	Water	410.4	
LCS 480-462576/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-462576/4	Lab Control Sample	Total/NA	Water	410.4	
480-149715-1 MS	6-ONE-001-002-01	Total/NA	Water	410.4	
480-149715-5 MS	6-ONE-001-002-05	Total/NA	Water	410.4	
480-149715-4 DU	6-ONE-001-002-04	Total/NA	Water	410.4	

Analysis Batch: 462627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	9060A	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	9060A	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	9060A	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	9060A	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	9060A	
MB 480-462627/51	Method Blank	Total/NA	Water	9060A	
MB 480-462627/75	Method Blank	Total/NA	Water	9060A	
LCS 480-462627/52	Lab Control Sample	Total/NA	Water	9060A	

General Chemistry (Continued)

Analysis Batch: 462627 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-462627/76	Lab Control Sample	Total/NA	Water	9060A	
480-149715-5 MS	6-ONE-001-002-05	Total/NA	Water	9060A	

Analysis Batch: 462742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	SM 2320B	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	SM 2320B	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	SM 2320B	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	SM 2320B	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	SM 2320B	
MB 480-462742/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-462742/8	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 462825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149715-1	6-ONE-001-002-01	Total/NA	Water	SM 2340C	
480-149715-2	6-ONE-001-002-02	Total/NA	Water	SM 2340C	
480-149715-3	6-ONE-001-002-03	Total/NA	Water	SM 2340C	
480-149715-4	6-ONE-001-002-04	Total/NA	Water	SM 2340C	
480-149715-5	6-ONE-001-002-05	Total/NA	Water	SM 2340C	
MB 480-462825/3	Method Blank	Total/NA	Water	SM 2340C	
LCS 480-462825/4	Lab Control Sample	Total/NA	Water	SM 2340C	
480-149715-5 DU	6-ONE-001-002-05	Total/NA	Water	SM 2340C	

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Client Sample ID: 6-ONE-001-002-01

Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	461901	03/07/19 03:07	AMM	TAL BUF
Total/NA	Prep	3510C			461844	03/06/19 14:48	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		5	462442	03/11/19 19:18	DMR	TAL BUF
Total/NA	Prep	3510C			461926	03/07/19 07:54	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	462181	03/08/19 19:05	PJQ	TAL BUF
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	141014	03/21/19 05:36	JM1	TAL BUR
Total/NA	Prep	3005A			461869	03/06/19 16:52	MV	TAL BUF
Total/NA	Analysis	6010C		1	462121	03/07/19 14:23	LMH	TAL BUF
Total/NA	Prep	7470A			461774	03/06/19 11:27	BMB	TAL BUF
Total/NA	Analysis	7470A		1	461862	03/06/19 15:04	BMB	TAL BUF
Total/NA	Analysis	300.0		1	461964	03/07/19 11:18	EMD	TAL BUF
Total/NA	Analysis	350.1		50	462182	03/08/19 11:18	A1A	TAL BUF
Total/NA	Analysis	410.4		1	462576	03/12/19 10:00	MDL	TAL BUF
Total/NA	Analysis	9060A		1	462627	03/10/19 23:20	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	462742	03/12/19 21:38	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	462825	03/13/19 13:13	MJB	TAL BUF
Total/NA	Analysis	SM 2540C		1	461720	03/06/19 08:24	RAF	TAL BUF

Client Sample ID: 6-ONE-001-002-02

Date Collected: 03/04/19 10:25
Date Received: 03/05/19 01:00

Lab Sample ID: 480-149715-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	461901	03/07/19 03:35	AMM	TAL BUF
Total/NA	Prep	3510C			461844	03/06/19 14:48	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		5	462442	03/11/19 19:43	DMR	TAL BUF
Total/NA	Prep	3510C			461926	03/07/19 07:54	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	462181	03/08/19 19:34	PJQ	TAL BUF
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	141014	03/21/19 05:51	JM1	TAL BUR
Total/NA	Prep	3005A			461869	03/06/19 16:52	MV	TAL BUF
Total/NA	Analysis	6010C		1	462121	03/07/19 14:42	LMH	TAL BUF
Total/NA	Prep	7470A			461774	03/06/19 11:27	BMB	TAL BUF
Total/NA	Analysis	7470A		1	461862	03/06/19 15:05	BMB	TAL BUF
Total/NA	Analysis	300.0		1	461964	03/07/19 11:33	EMD	TAL BUF
Total/NA	Analysis	350.1		50	462182	03/08/19 11:22	A1A	TAL BUF
Total/NA	Analysis	410.4		1	462576	03/12/19 10:00	MDL	TAL BUF
Total/NA	Analysis	9060A		1	462627	03/10/19 23:50	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	462742	03/12/19 21:59	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	462825	03/13/19 13:13	MJB	TAL BUF
Total/NA	Analysis	SM 2540C		1	461720	03/06/19 08:24	RAF	TAL BUF

Client Sample ID: 6-ONE-001-002-03

Lab Sample ID: 480-149715-3

Date Collected: 03/04/19 12:30

Matrix: Water

Date Received: 03/05/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461901	03/07/19 04:02	AMM	TAL BUF
Total/NA	Prep	3510C			461844	03/06/19 14:48	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	462442	03/11/19 20:07	DMR	TAL BUF
Total/NA	Prep	3510C			461926	03/07/19 07:54	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	462181	03/08/19 20:03	PJQ	TAL BUF
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	141014	03/21/19 06:07	JM1	TAL BUR
Total/NA	Prep	3005A			461869	03/06/19 16:52	MV	TAL BUF
Total/NA	Analysis	6010C		1	462121	03/07/19 14:58	LMH	TAL BUF
Total/NA	Prep	7470A			461774	03/06/19 11:27	BMB	TAL BUF
Total/NA	Analysis	7470A		1	461862	03/06/19 15:07	BMB	TAL BUF
Total/NA	Analysis	300.0		1	461964	03/07/19 11:47	EMD	TAL BUF
Total/NA	Analysis	350.1		20	462182	03/08/19 11:23	A1A	TAL BUF
Total/NA	Analysis	410.4		1	462576	03/12/19 10:00	MDL	TAL BUF
Total/NA	Analysis	9060A		1	462627	03/11/19 00:21	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	462742	03/12/19 22:09	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	462825	03/13/19 13:13	MJB	TAL BUF
Total/NA	Analysis	SM 2540C		1	461720	03/06/19 08:24	RAF	TAL BUF

Client Sample ID: 6-ONE-001-002-04

Lab Sample ID: 480-149715-4

Date Collected: 03/04/19 13:50

Matrix: Water

Date Received: 03/05/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461901	03/07/19 04:29	AMM	TAL BUF
Total/NA	Prep	3510C			461844	03/06/19 14:48	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	462442	03/11/19 20:32	DMR	TAL BUF
Total/NA	Prep	3510C			461926	03/07/19 07:54	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	462181	03/08/19 20:31	PJQ	TAL BUF
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	141014	03/21/19 06:23	JM1	TAL BUR
Total/NA	Prep	3005A			461869	03/06/19 16:52	MV	TAL BUF
Total/NA	Analysis	6010C		1	462121	03/07/19 15:01	LMH	TAL BUF
Total/NA	Prep	7470A			461774	03/06/19 11:27	BMB	TAL BUF
Total/NA	Analysis	7470A		1	461862	03/06/19 15:08	BMB	TAL BUF
Total/NA	Analysis	300.0		2	461778	03/06/19 17:51	EMD	TAL BUF
Total/NA	Analysis	350.1		2	462182	03/08/19 11:24	A1A	TAL BUF
Total/NA	Analysis	410.4		1	462576	03/12/19 10:00	MDL	TAL BUF
Total/NA	Analysis	9060A		2	462627	03/11/19 00:50	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	462742	03/12/19 22:16	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	462825	03/13/19 13:13	MJB	TAL BUF
Total/NA	Analysis	SM 2540C		1	461720	03/06/19 08:24	RAF	TAL BUF

Client Sample ID: 6-ONE-001-002-05

Lab Sample ID: 480-149715-5

Date Collected: 03/04/19 14:00

Matrix: Water

Date Received: 03/05/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461901	03/07/19 04:55	AMM	TAL BUF
Total/NA	Prep	3510C			461844	03/06/19 14:48	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	462442	03/11/19 20:56	DMR	TAL BUF
Total/NA	Prep	3510C			461926	03/07/19 07:54	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	462181	03/08/19 21:00	PJQ	TAL BUF
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141014	03/21/19 06:39	JM1	TAL BUR
Total/NA	Prep	3005A			461869	03/06/19 16:52	MV	TAL BUF
Total/NA	Analysis	6010C		1	462121	03/07/19 15:05	LMH	TAL BUF
Total/NA	Prep	7470A			461774	03/06/19 11:27	BMB	TAL BUF
Total/NA	Analysis	7470A		1	461862	03/06/19 15:09	BMB	TAL BUF
Total/NA	Analysis	300.0		1	461778	03/06/19 18:06	EMD	TAL BUF
Total/NA	Analysis	350.1		1	462182	03/08/19 10:06	A1A	TAL BUF
Total/NA	Analysis	410.4		1	462576	03/12/19 10:00	MDL	TAL BUF
Total/NA	Analysis	9060A		1	462627	03/11/19 03:19	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	462742	03/12/19 22:21	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	462825	03/13/19 13:13	MJB	TAL BUF
Total/NA	Analysis	SM 2540C		1	461720	03/06/19 08:24	RAF	TAL BUF

Client Sample ID: 6-ONE-001-002-06

Lab Sample ID: 480-149715-6

Date Collected: 03/04/19 14:10

Matrix: Water

Date Received: 03/05/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			140731	03/11/19 14:18	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141014	03/21/19 06:55	JM1	TAL BUR

Client Sample ID: 6-ONE-001-002-07a

Lab Sample ID: 480-149715-7

Date Collected: 03/04/19 00:00

Matrix: Water

Date Received: 03/05/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461918	03/07/19 11:18	AEM	TAL BUF

Client Sample ID: 6-ONE-001-002-07b

Lab Sample ID: 480-149715-8

Date Collected: 03/04/19 00:00

Matrix: Water

Date Received: 03/05/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	461918	03/07/19 11:45	AEM	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Laboratory References:

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

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-19 *

Laboratory: TestAmerica Burlington

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
ANAB	DoD / DOE		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-19 *
Florida	NELAP	4	E87467	06-30-19
Maine	State Program	1	VT00008	04-17-19 *
Minnesota	NELAP	5	050-999-436	12-31-19
New Hampshire	NELAP	1	2006	12-18-19
New Jersey	NELAP	2	VT972	06-30-19
New York	NELAP	2	10391	04-01-19 *
Pennsylvania	NELAP	3	68-00489	04-30-19 *
Rhode Island	State Program	1	LAO00298	12-30-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-19
Virginia	NELAP	3	460209	12-14-19

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

Method Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
8270D_LL_PAH	Semivolatile Organic Compounds (GC/MS) Low level PAH	SW846	TAL BUF
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
410.4	COD	MCAWW	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 2340C	Hardness, Total (mg/l as CaC03)	SM	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR
5030C	Purge and Trap	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

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

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

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

Laboratory References:

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

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Utica City Dump, Region 6

TestAmerica Job ID: 480-149715-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-149715-1	6-ONE-001-002-01	Water	03/04/19 10:25	03/05/19 01:00
480-149715-2	6-ONE-001-002-02	Water	03/04/19 10:25	03/05/19 01:00
480-149715-3	6-ONE-001-002-03	Water	03/04/19 12:30	03/05/19 01:00
480-149715-4	6-ONE-001-002-04	Water	03/04/19 13:50	03/05/19 01:00
480-149715-5	6-ONE-001-002-05	Water	03/04/19 14:00	03/05/19 01:00
480-149715-6	6-ONE-001-002-06	Water	03/04/19 14:10	03/05/19 01:00
480-149715-7	6-ONE-001-002-07a	Water	03/04/19 00:00	03/05/19 01:00
480-149715-8	6-ONE-001-002-07b	Water	03/04/19 00:00	03/05/19 01:00

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information	COC #: 6-ONE-001-002
Lab Name: TestAmerica Laboratories, Inc.	Company: OBG	Project Name: ILI - Region 6
Attention: Melissa Deyo	Attention: Scott Tucker	
Address: 118 Boss Rd, Syracuse, NY 13211	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Utica City Dump
Phone: (315) 431-0171	Phone: 315-956-6345	Project Number: 450619
Email: Melissa.Deyo@testamericainc.com	Email: Scott.Tucker@obg.com	

Section C Deliverable Requirements	
Report To: Scott.Tucker@obg.com	Purchase Order No:
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	TAT - 10 Day
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD	Section D Additional Information

Preservative codes (for water only):

#	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537 (pres. 0; #Bottles 2)	Modified Baseline VOCs - 8260 (pres. 1; #Bottles 3)	PAHs + 1, 4 - Dioxane-8270SIM (pres. 0; #Bottles 4)	Mod.Bsln Met/Hard-6010/7470/SM20 2340C (pres. 2; #Bottles 2)	Ammonia 350.1 / COD 410.4 (pres. 3; #Bottles 1)	TOC - 9060A (pres. 1; #Bottles 2)	SO4/CHL/BRO/TDS - 300/SM2540D (pres. 0; #Bottles 2)	Alkalinity - SM20 2320B (pres. 0; #Bottles 1)	Ammonia 350.1/SM20 (pres. 3; #Bottles 1)
1	6-ONE-001-MW-UNK-06	20.10	20.10	6-ONE-001-002-01	3/4/19	1025	-	WG	N	17			X	X	X	X	X	X	X	X	X
2	6-ONE-001-MW-UNK-06	20.10	20.10	6-ONE-001-002-02	3/4/19	1025	-	~~WQ~~ WG	FD	17			X	X	X	X	X	X	X	X	X
3	6-ONE-001-MW-UNK-05	16.14	16.14	6-ONE-001-002-03	3/4/19	1230	-	WG	N	17			X	X	X	X	X	X	X	X	X
4	6-ONE-001-MW-UNK-01	14.20	14.20	6-ONE-001-002-04	3/4/19	1350	-	WG	N	17			X	X	X	X	X	X	X	X	X
5	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-05	3/4/19	1400	-	WQ	EB	17			X	X	X	X	X	X	X	X	X
6	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-06	3/4/19	1410	-	WQ	FB	2			X								
7	6-ONE-001-FIELDQC	-	-	~~6-ONE-001-002-04~~ 6-ONE-001-002-07 MPB	3/4/19	-	-	WQ	TB	~~7~~ 3 MPB				X							
8																					
9																					
10																					

Special Instructions:

Temp 2.0 1.6 #1

480-149715 Chain of Custody

Samplers Name: Mario Bianchi	Company: OBG	Relinquished By: [illegible]	Company: TA SYR	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Bring City	Date/Time: 3/4/19		Date/Time: 3/4/19 1535	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Shipment Tracking No:	Accepted By: [illegible]	Company: TA Buffalo	Rec'd on Ice: Yes ☒ No ☐	Samples Intact: Yes ☐ No ☐
	Date/Time: 1535		Date/Time: 03/05/19 0166		

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (H3PO4):

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* REVISED *

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information		
Lab Name: TestAmerica Laboratories, Inc.	Company: OBG	COC #:	6-ONE-001-002
Attention: Melissa Deyo	Attention: Scott Tucker	Project Name:	ILI - Region 6
Address: 118 Boss Rd, Syracuse, NY 13211	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site:	Utica City Dump
Phone: (315) 431-0171	Phone: 315-956-6345	Project Number:	450619
Email: Melissa.Deyo@testamericainc.com	Email: Scott.Tucker@obg.com		

Section C Deliverable Requirements	
Report To: Scott.Tucker@obg.com	Purchase Order No:
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	TAT - 10 Day
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD	Section D Additional Information

Preservative codes (for water only):

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1, 4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	Ammonia 350.1 / COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
										Preservative			0	1	0	2	3	1	0	0	3
										#Bottles			2	3	4	2	2	2	2	2	1
1	6-ONE-001-MW-UNK-06	20.10	20.10	6-ONE-001-002-01	3/4/19	1025	-	WG	N	17			X	X	X	X	X	X	X	X	X
2	6-ONE-001-MW-UNK-06	20.10	20.10	6-ONE-001-002-02	3/4/19	1025	-	WG	FD	17			X	X	X	X	X	X	X	X	X
3	6-ONE-001-MW-UNK-05	16.14	16.14	6-ONE-001-002-03	3/4/19	1230	-	WG	N	17			X	X	X	X	X	X	X	X	X
4	6-ONE-001-MW-UNK-01	14.20	14.20	6-ONE-001-002-04	3/4/19	1350	-	WG	N	17			X	X	X	X	X	X	X	X	X
5	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-05	3/4/19	1400	-	WQ	EB	17			X	X	X	X	X	X	X	X	X
6	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-06	3/4/19	1410	-	WQ	FB	2			X								
7	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-07A	3/4/19	-	-	WQ	TB	3				X							
8	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-07-B	3/4/19	-	-	WQ	TB	1				X							
9	~~6-ONE-001-FIELDQC~~	-	-	~~6-ONE-001-002-07-C~~	~~3/4/19~~	-	-	~~WQ~~	~~TB~~	~~1~~	MMB 3/7/19			X							
10																					

MMB 3/6/19

Special Instructions:

Samplers Name: Mario Bianchetti	Company: OBG	Relinquished By: [signature]	Company: TA SYR	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 3/4/19		Date/Time: 3/4/19 1535	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Brent Ulik	Shipment Tracking No:	Accepted By:	Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 1535		Date/Time:	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (H3PO4):

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PFAS → Burlington from SYR (AP) Fedex 4/6/19 0843 5512

CHAIN-OF-CUSTODY / Analytical Request Document

COC #: 6-ONE-001-002

Project Name: ILI - Region 6

Project Site: Utica City Dump

Project Number: 450619

Section A Laboratory Information

Lab Name: TestAmerica Laboratories, Inc.

Attention: Melissa Deyo TA PROJECT # 480-149734

Address: 118 Boss Rd, Syracuse, NY 13211

Phone: (315) 431-0171

Email: Melissa.Deyo@testamericainc.com

Section B Client Information

Company: OBG

Attention: Scott Tucker

Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221

Phone: 315-956-6345

Email: Scott.Tucker@obg.com

Section C Deliverable Requirements

Report To: Scott.Tucker@obg.com

Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com

Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD

Purchase Order No:

TAT - 10 Day

Section D Additional Information

Preservative codes (for water only): 0 1 0 2 3 1 0 0 3

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1,4 - Dioxane-8270SIM	Mod.Bsin Met/Hard-6010/7470/SM20 2340C	Ammonia 350.1/ COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
	#Bottles												2	3	4	2	1	2	2	1	1
1	6-ONE-001-MW-UNK-06	20.10	20.10	6-ONE-001-002-01	3/4/19	1025	-	WG	N	17			X	X	X	X	X	X	X	X	X
2	6-ONE-001-MW-UNK-06	20.10	20.10	6-ONE-001-002-02	3/4/19	1025	-	WG	FD	17			X	X	X	X	X	X	X	X	X
3	6-ONE-001-MW-UNK-05	16.14	16.14	6-ONE-001-002-03	3/4/19	1230	-	WG	N	17			X	X	X	X	X	X	X	X	X
4	6-ONE-001-MW-UNK-01	14.20	14.20	6-ONE-001-002-04	3/4/19	1350	-	WG	N	17			X	X	X	X	X	X	X	X	X
5	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-05	3/4/19	1400	-	WQ	EB	17			X	X	X	X	X	X	X	X	X
6	6-ONE-001-FIELDQC	-	-	6-ONE-001-002-06	3/4/19	1410	-	WQ	FB	2			X								
7	6-ONE-001-FIELDQC	-	-	~~6-ONE-001-002-04~~ 6-ONE-001-002-07 MS/MSD	3/4/19	-	-	WQ	TB	7 3				X							
8																					
9																					
10																					

Special Instructions:

480-149715 Chain of Custody

Syracuse #225

Samplers Name: Mano Bianchetti	Company: OBG	Relinquished by:	Company: TA SYR	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
Shipment Method: Syracuse UPS	Date/Time: 3/4/19	Accepted by:	Date/Time: 3/4/19 1535	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
	Shipment Tracking No:	Relinquished by:	Company: TA SYR	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 1535	Accepted by:	Date/Time: 3/4/19 1535	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐

Preservatives: None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (H3PO4):

Received by TA Burl Temp 0.6°C seals present ☑ yes

3/5/19 1020 Ice ☑ Yes Samples intact ☑ yes

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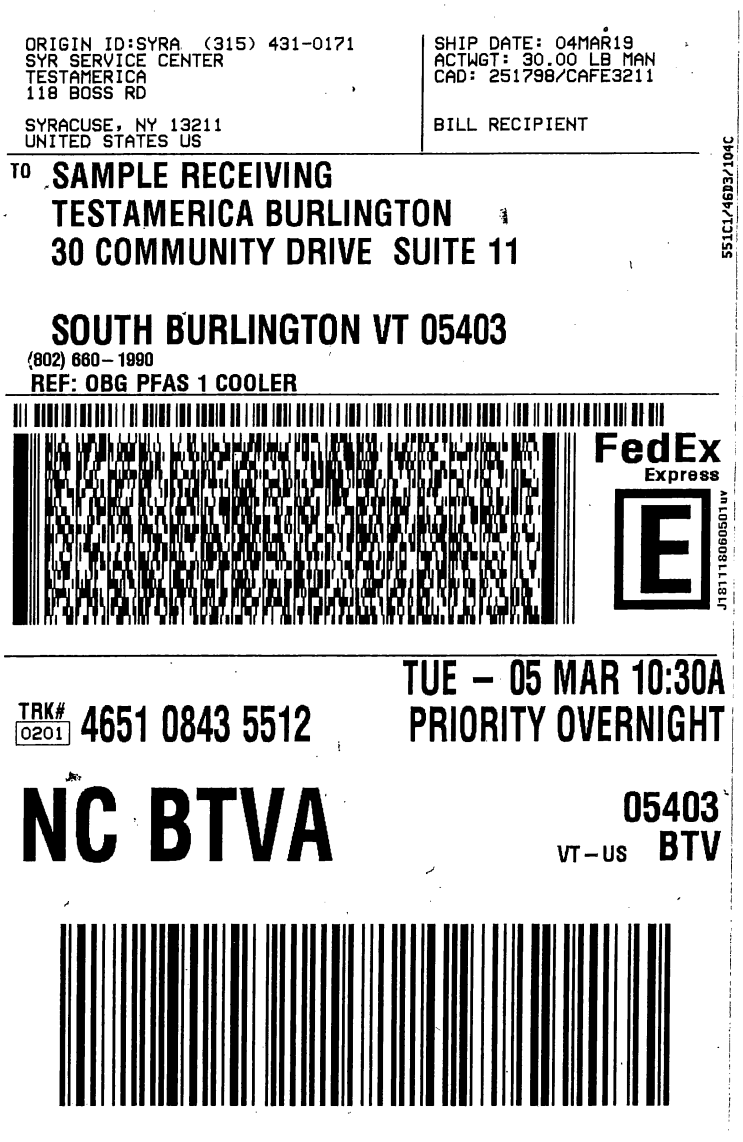

ORIGIN ID:SYRA (315) 431-0171
SYR SERVICE CENTER
TESTAMERICA
118 BOSS RD

SYRACUSE, NY 13211
UNITED STATES US

SHIP DATE: 04MAR19
ACTWGT: 30.00 LB MAN
CAD: 251798/CAFE3211

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE SUITE 11

SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: OBG PFAS 1 COOLER

551C1/46B3/104C

FedEx Express

J181118060501uv

TUE - 05 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4651 0843 5512

NC BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: O'Brien & Gere Engineers, Inc.

Job Number: 480-149715-1

Login Number: 149715
List Number: 1
Creator: Velickovic, Zoran

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	OBG
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	

Login Sample Receipt Checklist

Client: O'Brien & Gere Engineers, Inc.

Job Number: 480-149715-1

Login Number: 149715
List Number: 2
Creator: Nye, Elizabeth A

List Source: TestAmerica Burlington
List Creation: 03/06/19 08:16 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are 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	0.6° C
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 containers received 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.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	