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

Landfill Name: **Sand Road LF**

Region: **5**

Database ID: **5273**

Date of Field Activities: **3/4/2019-3/37/2019**

Summary of Field Activities

Three monitoring wells were installed and sampled. The field activities were conducted in accordance to the Sand Road LF Site NYSDEC Region 5 – Clinton County, New York work plan with no deviations. As shown in Figure 1, a total of three new monitoring wells were drilled and installed.

Monitoring Wells Installed

Monitoring Well ID	Northing	Easting	Elevation	Well Development Date	Comments
MW-1	4949845.975	611874.4144	556.12	3/25/2019	
MW-2	4949893.094	612156.4704	555.756	3/19/2019	
MW-3	4949832.385	612109.4152	542.536	3/19/2019	

Monitoring Wells Sampled

Monitoring Well ID	Date	Sample Collected (yes/no)	Comments
MW-1	3/27/2019	Yes	5-CLI-004-001-07
MW-2	3/26/2019	Yes	5-CLI-004-001-02
MW-3	3/26/2019	Yes	5-CLI-004-001-01

Other Samples

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

Figures

Attachments

N

LEGEND

- WELL INSPECTION
- EXPOSED WASTE
- CONTOURS
- PARCEL BOUNDARY
- APPROXIMATE LANDFILL EXTENT

NOTE:
-PARCEL GEOREFERENCED FROM CLINTON COUNTY GIS

NEW YORK STATE DEPARTMENT OF CONSERVATION
SAND ROAD LF
SCHUYLER FALLS, NEW YORK
REGION 5 - CLINTON COUNTY

SAMPLE LOCATIONS

0 75 150 300
Feet

8653.65982
APRIL 2019

O'BRIEN & GERE ENGINEERS, INC.

N

LEGEND

- WELL INSPECTION
- EXPOSED WASTE
- CONTOURS
- PARCEL BOUNDARY
- APPROXIMATE LANDFILL EXTENT
- PRESUMED GROUNDWATER FLOW

NOTE:
-PARCEL GEOREFERENCED FROM CLINTON COUNTY GIS

NEW YORK STATE DEPARTMENT OF CONSERVATION
SAND ROAD LF
SCHUYLER FALLS, NEW YORK
REGION 5 - CLINTON COUNTY

GROUNDWATER CONTOURS AND FLOW

0 75 150 300
Feet

8653.65982
MAY 2019

O'BRIEN & GERE ENGINEERS, INC.

Attachment 1

Sand Road LF Work Plan

Site-Specific Work Plan for:

HYDROGEOLOGIC INVESTIGATION
AT THE
SAND ROAD LF
NYSDEC REGION 5 – CLINTON COUNTY
TOWN OF SCHUYLER FALLS, NEW YORK

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
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November 2018

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Site Specific Work Plan For Hydrogeologic Investigation At The Sand Road LF 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 hydrogeologic investigation is to provide an initial assessment of the potential for impacts to groundwater in the immediate vicinity of the Sand Road LF site. This objective will be accomplished by installing three groundwater monitoring wells, sampling groundwater from the 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 Sand Road LF is located on the north side of Sand Road (NYS Route 31) approximately 0.8 miles west of the intersection of Sand Road and Main Street (NYS Route 22B) (**Figure 1**). The landfill is overgrown with trees and surrounded by woodland with a borrow pit to the east and residences to the south along Sand Road. During a May 2018 landfill inspection, exposed waste was observed within the landfill limits.

Based on boring logs and Site investigations at the Clinton County Landfill (CCLF), approximately 0.3 miles west of the Sand Road LF, there are four water bearing units. From top to bottom they are: (1) a saturated zone in a fine-grained deltaic sand, that is perched above a till unit with a clayey matrix; (2) a sporadically saturated interval in a coarser-grained outwash unit below the till (also perched); (3) a true "water table" (i.e., non-perched) in a complex of till/ice-contact deposits; (4) Potsdam sandstone bedrock.

Review of Clinton County Landfill (CCLF) documents indicate that bedrock is greater than 200 feet below grade and groundwater is present at approximately 16 to 25 ft below grade (upper unit described above as deltaic sand) in monitoring wells east of the CCLF. However, based on conversations with NYSDEC, groundwater has not been observed in the deltaic sand borrow pit immediately east of the Sand Road LF and it is unlikely that shallow groundwater observed in wells east of the CCLF exists where the Sand Road LF is located. It is more likely that groundwater would be present at approximately 80 ft to 100 ft below grade in the upper till, possibly in the shallower glacial outwash unit.

Public water service was installed to service residences on Newell Court, Vassar Road, Fatima Street and Sand Road as far east as Newell Court. Residences east of this area rely on drinking water wells, including those residences south of the Sand Road LF.

3.1 GROUNDWATER AND SURFACE WATER OCCURRENCE AND FLOW

The landfill is located approximately 0.4 miles south of the Saranac River. The Saranac River empties into the Lake Champlain approximately 7 miles east of the landfill.

Groundwater is presumed to be encountered 80 to 100 feet below the surface with flow north and east.

4.0 HYDROGEOLOGICAL INVESTIGATION 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. Site-specific elements and specific job safety analyses for soil borings, and monitoring well installations will be added to the Health and Safety Plan specifically for the Sand Road LF site.

A Community Air Monitoring Plan will be implemented for real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area during invasive activities on-site.

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.

Three monitoring wells will be installed at the site as described below to evaluate general groundwater quality. The well locations are shown in **Figure 1**. One upgradient well will be installed along the western landfill limit. Two downgradient wells will be installed along the eastern landfill limits.

4.1 SUBSURFACE UTILITY CLEARING

The local DIG SAFE service will be used to mark out subsurface utility lines near the proposed monitoring well locations. Monitoring well boring locations will be adjusted in the field as necessary to avoid subsurface obstructions and utilities. Each well boring location will also be hand-dug to 5 feet to ensure the location is clear of subsurface utilities. The proposed well locations are shown on **Figure 1**.

4.2 MONITORING WELL INSTALLATIONS

Following hand-clearing, the borings for the monitoring wells will be installed into the overburden. NYSDEC relied on sonic drilling methods in overburden at the CCLF due to limited production (approximately 10 ft per day) from hollow stem auger drilling methods. As a result, overburden drilling will also be completed at the Sand Road LF using sonic drilling methods (**Figure 1**).

Soil samples will be collected continuously at each boring location. Samples will be physically described in the field using both the Burmeister and USCS soil classification systems. A photoionization detector (PID) will be used to record the headspace readings of each soil sample.

The borings will be advanced to the first water-bearing zone that is considered acceptable for placing a monitoring well that will yield a volume of representative groundwater sufficient for sampling.

Monitoring wells will be constructed of 2-inch inside-diameter polyvinyl chloride (PVC) casing with a 5 to 10-foot long, #10-slot screen and compatible sand pack material. Each well will be completed with a locking protective casing with approximately 3 feet of stick-up. Should shallow groundwater or other site conditions dictate, modifications to the well design will be made in the field by the supervising geologist.

Following installation, the new monitoring wells will be developed to remove material which may have settled in and around the well screen. Development will use methods described in the FAP. Following well development, the locations and elevations of the monitoring well PVC casings will be established relative to an arbitrary onsite datum using a Total Station surveying instrument.

Drilling equipment will be decontaminated by pressure washing between borings and before entering or leaving the site.

Drill cuttings from borings will be spread along the ground adjacent to the borehole. However, soils that contain visible wastes, free product, NAPL, or otherwise are grossly contaminated will be containerized for subsequent characterization and disposal. Water generated during the investigation will be discharged to an unpaved area of the site.

4.3 GROUNDWATER SAMPLING

Once well installation and development are complete, a groundwater sample will be collected from each well utilizing low flow sampling techniques 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.

The groundwater 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

Boring logs, 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
N-ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA)	Modified 537
N-methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	Modified 537
Perfluorobutanesulfonic acid (PFBS)	Modified 537
Perfluorodecanoic acid (PFDA)	Modified 537
Perfluorododecanoic acid (PFDoA)	Modified 537
Perfluoroheptanoic acid (PFHpA)	Modified 537
Perfluorohexanesulfonic acid (PFHxS)	Modified 537
Perfluorohexanoic acid (PFHxA)	Modified 537
Perfluorononanoic acid (PFNA)	Modified 537
Perfluorooctanesulfonic acid (PFOS)	Modified 537
Perfluorooctanoic acid (PFOA)	Modified 537
Perfluorotetradecanoic acid (PFTeA)	Modified 537
Perfluorotridecanoic Acid (PFTriA)	Modified 537
Perfluoroundecanoic acid (PFUnA)	Modified 537
Perfluorobutanoic acid (PFBA)	Modified 537
Perfluoropentanoic acid (PFPeA)	Modified 537
Perfluorohepanesulfonic acid (PFHpS)	Modified 537
Perfluoro-1-decanesulfonic acid (PFDS)	Modified 537
Perfluror-1-octanesulfonamide (FOSA)	Modified 537
6:2 Fluorotelomer sulfonate (6:2FTS)	Modified 537
8:2 Fluorotelomer sulfonate (8:2FTS)	Modified 537

N

LEGEND

- PROPOSED MONITORING WELL
- EXPOSED WASTE
- PARCEL BOUNDARY
- APPROXIMATE LANDFILL EXTENT

NOTE:
-PARCEL GEOREFERENCED FROM CLINTON COUNTY GIS

NEW YORK STATE DEPARTMENT OF CONSERVATION
SAND ROAD LF
SCHUYLER FALLS, NEW YORK
REGION 5 - CLINTON COUNTY

SITE PLAN

0 100 200 400
Feet

8653.65982
NOVEMBER 2018

O'BRIEN & GERE ENGINEERS, INC.

Attachment 2

Boring and Well Construction Logs

SOIL BORING LOG

BORING ID: MW-1
INSPECTOR: Sara Hahne

PROJECT:	NYSDEC ILI Region 5	SITE NAME:	Sand Road LF	DATE STARTED:	3/15/2019
CLIENT:	NYSDEC	SITE LOC.:	Schulyer Falls, NY	DATE COMPLETED:	3/19/2019
JOB #:	65982	BORING LOC.:	West of landfill	FINAL STATIC WL:	96.5 ft bgs

DRILL	Parratt-Wolff	DRILLING METHOD:	Sonic	NORTHING:	4949845.975
FOREMAN:	Anthony Convery	HAMMER / FALL:	N/A	EASTING:	611874.4144
RIG TYPE:	Boart Longyear LS-250	SAMPLER TYPE:	Sonic	ELEVATION:	556.12
PURPOSE:	MW Installation	SAMPLER DIAMETER:	4"	DATUM:	NAV'D 83

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
	0	5	N/A			0-5' Hand-cleared (10YR 5/6)-Dark yellowish brown (10YR 6/6) damp-dry fine SAND, well sorted, loose	SAND		SP
1	0	10	10/3.2			0-0.2' (10YR 5/6) - Dusky brown (5YR 2/2) saturated fine SAND, little roots and wood fragments, well sorted, loose	SAND	0	SP
						0.2-1.1 (10YR 7/6) saturated fine SAND, little roots and wood fragments, well sorted, loose	SAND	0	SP
						1.1-3.2 (10YR 6/4) saturated fine SAND, little roots and wood fragments, well sorted, loose	SAND	0	SP
2	~10	15	5/7.8			0-5' SAA	SAND	0	SP
						5-7.6' (10YR 5/2) dry fine-medium SAND, some silt, little coarse sand, little fine-medium gravel, poorly sorted, dense, sub-angular to sub-rounded	SAND	0	SM
						7.6-7.8' Olive gray (5Y 4/1) dry SILT, trace medium-coarse gravel, well sorted, dense, gravel sub-angular to sub-rounded	SILT	0	ML
3	15	20	5/ 6.7			0-1' (10YR 6/4) saturated fine SAND, well sorted, loose	SAND	0	SP
						1-6.7' Olive gray (5Y 4/1) dry SILT, trace medium-coarse gravel, well sorted, dense, gravel sub-angular to sub-rounded	SILT	0	ML
4	20	30	10/7.3			0-3' Olive gray (5Y 4/1) dry SILT, trace coarse gravel, well sorted, dense, gravel sub-angular to sub-rounded	SILT	0	ML
						3-7.3' Olive gray (5Y 4/1) dry SILT, little fine, medium, coarse gravel, well sorted,	SILT	0	ML

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-1

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						dense, gravel sub-angular to sub-rounded			
5	30	40	10/9.7			0-1.8' Olive gray (5Y 4/1) saturated* SILT	SAND	0	SM-
						and very fine SAND, little silt nodules, little-	and		ML
						trace medium-coarse gravel, gravel is	SILT		
						rounded to sub-angular, moderately sorted,			
						dense			
						1.8-3.8' Moderate yellowish brown (10YR	SILT	0	ML
						5/4) damp SILT, little very fine sand layers/			
						pockets, well sorted, dense			
						3.8-6.3' Moderate yellowish brown (10YR	SAND	0	SP
						5/4) damp-wet fine SAND, trace silt nodules,			
						trace medium-coarse gravel, gravel is			
						sub-angular to rounded, well sorted			
						6.3-9.7' Moderate yellowish brown (10YR	SILT	0	ML
						5/4) damp SILT, some-little fine, medium,			
						coarse gravel, gravel is rounded to sub-			
						angular, moderately sorted			
6	40	50	10/8.9			0-1.5' SAA	SILT	0	ML
						1.5-8.9' (5Y 4/2) dry SILT, little-some fine,	SILT	0	ML
						medium, coarse gravel, rounded to angular,			
						moderately sorted, dense			
7	50	60	10/10.2			0-3' Olive gray (5Y 4/1) wet* SILT, little	SILT	0.3	ML
						very fine sand, trace fine, medium, coarse			
						gravel, sub-rounded to angular, moderately			
						sorted			
						3-10.2' (10YR 5/2) dry SILT and very fine	SAND	0	SM-
						SAND, periodic dense silt layers, some-little	and		ML
						fine, medium, coarse gravel, rounded to	SILT		
						angular, poorly sorted			
8	60	70	10/8.7			0-3.7' SAA		0.1	ML
						3.7-6' (10YR 5/2) wet* fine-medium SAND,	SAND	0.1	SP
						little-trace coarse sand, trace fine, medium,			
						coarse gravel, well sorted, loose, sub-			
						angular to rounded			
						6-8.7' (10YR 5/2) dry very fine-medium	SAND	0	SM-
						SAND and SILT, little fine, medium, coarse	and		ML
						gravel, silt in nodules, poorly sorted,	SILT		

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-1

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						angular to rounded, dense			
9	70	80	10/8.9			0-1.9' light olive gray (5Y 5/2) saturated-wet	SAND	0	SM-
						very fine-medium SAND and SILT, little fine,	and		ML
						medium, coarse gravel, silt in nodules,	SILT		
						poorly sorted, angular to rounded, dense			
						1.9-3.8' (10YR 5/2) dry fine SAND and SILT,	SAND	0	SM-
						some medium-coarse gravel, little fine	and		ML
						gravel, poorly sorted, sub-angular to	SILT		
						rounded			
						3.8-5' Light olive gray (5Y 5/2) damp	SAND	0	SW-
						medium-coarse SAND and fine, medium,	and		GW
						coarse GRAVEL, sub-angular to sub-rounded,	GRAVEL		
						poorly sorted, loose			
						5-8.1' Light olive gray (5Y 5/2) saturated-	SAND	0	SM-
						damp very fine-medium SAND and SILT, little	and		ML
						medium-coarse gravel, fining downward,	SILT		
						moderately graded			
						8.1-8.5' Moderate yellowish brown (10YR	SILT	0	ML
						5/4)-Light olive gray (5Y 5/2) damp SILT,			
						dense, little-trace fine-medium gravel,			
						rounded to sub-angular			
						8.5-8.9' Light olive gray (5Y 5/2) damp very	SAND	0	SM-
						fine-medium SAND and SILT, little medium-	and		ML
						coarse gravel, moderately graded	SILT		
10	80	90	10/7.7			0-3.7' (10YR 5/2) saturated* fine SAND and	SAND	0.4	SM-
						SILT, some-little medium sand, some-little	and		ML
						fine, medium, coarse gravel, gravel is	SILT		
						rounded to sub-angular, moderately sorted			
						3.7-5' (10YR 6/4) dry fine-medium SAND,	SAND	0.1	SP-
						little coarse sand, little fine-medium gravel,			SW
						gravel is rounded to sub-angular,			
						moderately sorted			
						5-5.3' Pale yellowish brown (10YR 6/2) dry	SAND	0.1	SM-
						SILT and very fine SAND, loose and powdery,	and		ML
						well sorted	SILT		
						5.3-6.3' (10YR 6/4) dry fine-medium SAND,	SAND	0.1	SP-
						little coarse sand, little fine-medium gravel,			SW

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-1

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						gravel is rounded to sub-angular,			
						moderately sorted			
						6.3-7.7' (10YR 5/2) damp fine, medium,	SAND	0.1	SP
						coarse SAND, some-little silt nodules, little			
						fine-medium gravel, well sorted, loose,			
						rounded to angular			
11	90	100	10/9			0-1.3' SAA, saturated*	SAND	15.9	SP
						1.3-2.4' Dark yellowish brown (10YR 4/2)	SAND	15.9	SM-
						saturated fine-medium SAND and SILT,	and		ML
						trace fine-medium gravel, sub-angular to	SILT		
						rounded, very dense, moderately sorted			
						2.4-3.5' Pale yellowish brown (10YR 6/2)	SAND	15.9	SM-
						dry SILT and very fine SAND, loose and	and		ML
						powdery, well sorted	SILT		
						3.5-8.8' Moderate yellowish brown (10YR	SAND	15.9	SM-
						5/4)-Light olive gray (5Y 5/2) wet very fine	and		ML
						SAND and SILT, little silt layers/nodules, well	SILT		
						sorted, rounded to sub-angular			
						8.8-9' (10YR 5/2)-Light olive gray (5Y 5/2)	SAND	15.9	SM-
						wet very fine-medium SAND and SILT, dense,	and		ML
						well sorted, visible thin silt lenses	SILT		
13	100	105	5/5.2			0-1.1' SAA, saturated		0	
						1.1-2.5' (10YR 5/2)-Light olive gray (5Y 5/2)	SAND		SP
						saturated-wet very fine-fine SAND, well			
						sorted, little silt nodules, rounded, loose			
						2.5-3' (10YR 5/2)-Light olive gray (5Y 5/2)	SAND	0	SM-
						saturated very fine-medium SAND and SILT,	and		ML
						dense, well sorted, visible silt lenses	SILT		
						3-3.5' Multicolored-(10YR 3/2) saturated	SAND	0	SP
						fine, medium, coarse SAND, trace silt			
						nodules, well sorted, angular to rounded			
						3.5-5.2' (10YR 5/2)-Light olive gray (5Y 5/2)	SAND	0	SM-
						saturated very fine-medium SAND and SILT,	and		ML
						dense, well sorted, visible silt lenses	SILT		
14	105	106	1/0			No recovery, lost sample while pulling			
						sample rod			

NOTES: SAA = Same As Above

*Saturated from sampler

From 90-100' bgs, sweet smell/odor from sample and elevated PID readings

SOIL BORING LOG

BORING ID: MW-2
INSPECTOR: Sara Hahne

PROJECT:	NYSDEC ILI Region 5	SITE NAME:	Sand Road LF	DATE STARTED:	3/5/2019
CLIENT:	NYSDEC	SITE LOC.:	Schulyer Falls, NY	DATE COMPLETED:	3/11/2019
JOB #:	65982	BORING LOC.:	East of landfill	FINAL STATIC WL:	96.7 ft bgs
DRILL	Parratt-Wolff	DRILLING METHOD:	Sonic	NORTHING:	4949893.094
FOREMAN:	Anthony Convery	HAMMER / FALL:	N/A	EASTING:	612156.4704
RIG TYPE:	Boart Longyear LS-250	SAMPLER TYPE:	Sonic	ELEVATION:	555.756
PURPOSE:	MW Installation	SAMPLER DIAMETER:	4"	DATUM:	NAV'D 83

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
	0	5	N/A			Hand-cleared.	SAND		SP
						Waste mixed in with fine SAND, little	and		
						fine, medium and coarse gravel	FILL		
1	5	10	5/1.1			0-1.1' Dusky brown (5YR 2/2) to light brown	SAND	0	SP
						(5YR 5/6) saturated* fine-medium SAND,	and		
						some waste including glass, plastic, metal,	FILL		
						trace roots, sand is well sorted, sub-rounded			
						to angular, loose			
2	10	20	10/10			0-0.7' Dark yellowish brown (10YR 4/2)	SAND	0	SP
						saturated* fine SAND, some waste, trace			
						medium sand, loose, well sorted			
						0.7-4.2' (10YR 5/2) moist very fine- fine	SAND	0	SP
						SAND, trace waste	FILL		
						4.2-5.6' Dusky brown (5YR 2/2) to light	SAND	0	SP
						brown (5YR 5/6) saturated* fine-medium	and		
						SAND, some waste including glass, plastic,	FILL		
						metal, trace roots, sand is well sorted,			
						sub-rounded to angular, loose			
						5.6-10' Dark Yellowish brown (10YR 4/2)	SAND		SP
						saturated* fine SAND, some waste, trace	and		
						medium sand, loose, well sorted	FILL		
3	20	30	10/10			0-3.2' SAA	SAND	0	SP
						3.2-10' Medium dark gray (4N4) dense and	SILT		ML
						firm dry SILT, well sorted, at 4.7' transition			
						to include little-some fine, medium, coarse			
						gravel, moderately sorted			
4	30	35	5/3.5			0-3.5 Medium dark gray (4N4) dense and	SILT	0	ML
						firm saturated* SILT, little-some fine,			
						medium, coarse gravel, little fine sand,			

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-2

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						moderately sorted			
5	35	40	5/7			0-1.6' SAA	SILT	0	ML
						1.6-3' Medium gray (5N5) to Moderate	SILT		ML
						yellowish brown (10YR 5/4) moist SILT, trace			
						medium-coarse gravel, well sorted			
						3-7' Moderate yellowish brown (10YR 5/4)	SAND	0.3	SP-
						damp-dry very fine SAND, little-some silt			SM
						nodules, well sorted, loose, sub-rounded			
6	40	50	10/9.5			0-1.5' Moderate yellowish brown (10YR 5/4)	SAND		SP-
						damp-dry very fine SAND, little-some silt			SM
						nodules, little fine, medium, coarse gravel,			
						moderately sorted, loose, sub-rounded			
						1.5-4.5' SAA, saturated*	SAND	0.4	SM
						4.5-5.1' Dark yellowish brown (10YR 4/2)	SAND		SP
						moist very fine SAND, trace fine-medium			
						gravel, well sorted			
						5.1-9.5' (10YR 5/2) dry fine SAND, some	SAND		SM-
						fine, medium, coarse gravel, rock flour at			SW
						5.5-5.9', poorly sorted, angular, loose			
7	50	60	10/9.3			0-9.3' SAA	SAND	0.1	SW
8	60	70	10/9			0-1.1' SAA	SAND	0	SW
						1.1-7' Various colors coarse SAND and	SAND		SP
						fine GRAVEL, well sorted, rounded to	and		
						sub-rounded, cohesive	GRAVEL		
						7-9' various colors damp coarse SAND, little	SAND		SP-
						fine gravel, moderately sorted, loose			SW
9	70	80	10/10			0-8.5' SAA	SAND	0	SP
						8.5-10' Grayish black (2N2) damp SILT, little	SILT		ML
						rock flour, well sorted, firm			
10	80	90	10/10			0-3' Pale brown (5YR 5/2) damp-wet SILT,	SILT	0	ML
						trace medium-coarse gravel, well sorted,			
						firm, cohesive			
						3-8.5' (10YR 5/2) damp-dry fine, medium,	SAND	0	GP-
						coarse SAND and fine, medium, coarse	and		SP
						GRAVEL, alternating ratios of sand and	GRAVEL		
						gravel, angular to sub-rounded, poorly			
						sorted			

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-2

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						8.5-10' Grayish black (2N2) damp SILT, little	SILT	0	ML
						rock flour, well sorted, firm			
11	90	95	5/2.9			0-1' (10YR 5/2) saturated medium-coarse	GRAVEL	1.1	GW
						GRAVEL, some fine gravel, little fine, medium,			
						coarse sand, poorly sorted, loose, rounded-			
						angular			
						1-2.3' (10YR 5/4) saturated medium-coarse	SAND	1.7	SW-
						SAND and fine GRAVEL, some-little medium,	and		GW
						coarse gravel, loose, poorly sorted, sub-	GRAVEL		
						rounded to angular			
						2.3-2.9' (5YR 5/4) saturated medium-coarse	SAND	3.8	SW-
						SAND and fine, medium, coarse GRAVEL,	and		GW
						trace fine sand, poorly sorted, sub-rounded	GRAVEL		
						to angular, loose			
12	95	100	5/5			0-0.8' (5YR 5/4) saturated fine-medium	SAND	58.8	SP
						SAND, well sorted, sub-angular to angular			
						0.8-3.5' Dark yellowish brown (10YR 4/2)	SILT	58.8	SM-
						saturated SILT and very fine SAND, little	and		ML
						fine, medium, coarse gravel, moderately	SAND		
						sorted, cohesive, dense			
						3.5-5' Multicolored fine, medium, coarse	GRAVEL	0.8	GP
						GRAVEL, little-trace coarse sand, well sorted,			
						sub-rounded to sub-angular, loose, more			
						fine gravel and coarse sand towards bottom			
						of sample			
13	100	108.5	8.5/6.3			0-0.8' Multicolored saturated coarse	GRAVEL	0	GP
						GRAVEL, well sorted, sub-angular to angular			
						0.8-3' Dark yellowish orange (10YR 6/6)	SAND	0	SP-
						wet-saturated fine SAND, little fine, medium,			SW-
						coarse gravel, moderately sorted, sub-			
						rounded, dense			
						3-4' dark yellowish brown (10YR 6/6)	SAND	0	SP-
						wet-saturated fine SAND, little fine, medium,			SW
						coarse gravel, moderately sorted, sub-			
						rounded, dense			

NOTES: SAA = Same As Above

*Saturated from sampler

From 95-100' bgs strong unknown chemical odor, like burnt plastic and elevated PID readings

SOIL BORING LOG

BORING ID: MW-2

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						4-6.3' Dark yellowish brown (10YR 4/2)	SAND	0	SW
						damp-wet fine, medium, coarse SAND and	and		
						fine, medium, coarse GRAVEL, poorly sorted,	GRAVEL		
						sub-angular to sub-rounded, loose			

NOTES:

SOIL BORING LOG

BORING ID: MW-3
INSPECTOR: Sara Hahne

PROJECT:	NYSDEC ILI Region 5	SITE NAME:	Sand Road LF	DATE STARTED:	3/5/2019
CLIENT:	NYSDEC	SITE LOC.:	Schulyer Falls, NY	DATE COMPLETED:	3/15/2019
JOB #:	65982	BORING LOC.:	Southeast of landfill	FINAL STATIC WL:	85.12 ft bgs

DRILL	Parratt-Wolff	DRILLING METHOD:	Sonic	NORTHING:	4949832.385
FOREMAN:	Anthony Convery	HAMMER / FALL:	N/A	EASTING:	612109.4152
RIG TYPE:	Boart Longyear LS-250	SAMPLER TYPE:	Sonic	ELEVATION:	542.536
PURPOSE:	MW Installation	SAMPLER DIAMETER:	4"	DATUM:	NAV'D 83

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
	0	5	N/A			Hand-cleared, fine SAND	SAND		SP
1	5	10	5/4.7			0-4.7' Moderate yellowish brown (10YR 5/4)		0	SP
						to (5YR 4/6) saturated-wet* very fine SAND,			
						little fine-medium sand, trace roots in top 2"			
						of sample, well sorted			
2	10	20	10/10			0-3.3' Moderate yellowish brown (10YR 5/4)			SP
						moist very fine SAND, trace fine, medium,			
						coarse gravel, rounded to sub-angular,			
						dense, well sorted			
						3.3-4' Moderate yellowish brown (10YR 5/4)	SAND	0	SP
						moist very fine SAND, trace fine, medium,			
						coarse gravel, trace fine-medium sand,			
						rounded to sub-angular, dense, well sorted			
						4-7.9' Dark yellowish brown (10YR 4/2)	SAND	0	SM-
						dry very fine SAND and SILT, some- little fine,	and		ML
						medium, coarse gravel, gravel is angular to	SILT		
						sub-rounded, moderately sorted, dense			
						7.9-10' (10YR 5/2) to Dark yellowish brown	SAND	0.4	SM-
						(10YR 4/2) to Olive gray (5Y 4/1) dry very	and		ML
						fine SAND and SILT, some fine, medium,	SILT		
						coarse gravel, trace medium-coarse sand,			
						poorly sorted, gravel is angular to sub-			
						rounded, moderately sorted, dense			
3	20	30	10/9.4			0-1' (10YR 5/2) saturated* fine-medium	SAND	0	SM-
						SAND and SILT, some fine, medium, coarse	and		ML
						gravel, sub-rounded to sub-angular, dense,	SILT		
						moderately sorted			
						1-9.4' Olive Gray (5Y 4/1) moist dense	SAND	0	SM-
						very fine SAND and SILT, some fine, medium,	and		ML
						coarse gravel, gravel angular to sub-rounded,	SILT		

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-3

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						moderately sorted			
4	30	40	10/8			0-1.5' Olive gray (5Y 4/1) saturated*	SAND	0	SP
						fine-medium SAND, well sorted, sub-			
						rounded to angular			
						transition of alternating layers of SSA and:			
						1.5-3.6' Olive gray (5Y 4/1) saturated* fine-	SAND	0	SM-
						medium SAND and SILT, some fine, medium,	and		ML
						coarse gravel, sub-rounded to sub-angular,	SILT		
						dense, moderately sorted			
						3.6-7.2' Moderate yellowish brown (10YR	SAND	0	SM-
						5/4) saturated* fine-medium SAND and SILT,	and		ML
						some fine, medium, coarse gravel, sub-	SILT		
						rounded to sub-angular, moderately sorted			
						7.2-8' Moderate yellowish brown (10YR 5/4)	SAND	0	SW
						dry loose fine-medium SAND, some coarse			
						sand and fine, medium, coarse gravel,			
						poorly sorted, angular-rounded			
5	40	50	10/9.4			0-0.5' Olive gray (5Y 4/1) fine-medium SAND	SAND	0	SW
						some coarse sand and fine, medium, coarse			
						gravel, poorly sorted, angular-rounded			
						0.5-2.3' Moderate yellowish brown (10YR	SAND	0	SM-
						5/4) very fine SAND and SILT, some fine,	and		ML
						medium, coarse gravel, sub-rounded to	SILT		
						sub-angular, moderately sorted, dense			
						2.3-8.8' Moderate yellowish brown (10YR	SAND	0	SW
						5/4) dry-damp fine-medium SAND, some			
						coarse sand and fine-medium gravel, little			
						coarse gravel, sub-rounded to sub-angular,			
						poorly sorted			
						8.8-9.4' Moderate yellowish brown (10YR	SAND	0	SP
						5/4) dry very fine-fine SAND, well sorted,			
						loose			
6	50	60	10/10.4			0-1' Moderate yellowish brown (10YR 5/4)	SAND	0	SM-
						saturated* very fine-fine SAND and SILT,	and		ML
						some coarse sand at bottom, poorly sorted,	SILT		
						sub-angular to sub-rounded			

NOTES: SAA = Same As Above

*Saturated from sampler

SOIL BORING LOG

BORING ID: MW-3

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						1-3.1' Moderate yellowish brown (10YR 5/4)	SAND	0.1	SW
						dry fine and very fine SAND, trace silt			
						nodules, some-little fine, medium, coarse			
						gravel, poorly sorted, dense			
						3.1-7.6' Dark yellowish brown (10YR 4/2)	SAND	0	SM-
						dry very fine SAND and SILT, some fine,	and		ML
						medium, coarse gravel, sub-rounded to sub-	SILT		
						angular, moderately sorted, dense			
						7.6-8.4' Dark yellowish brown (10YR 4/2)	SAND	0	SP
						dry very fine-fine SAND, trace coarse gravel,			
						well sorted			
						8.4-10.4' Dark yellowish brown (10YR 4/2)	SAND	0	SM-
						dry very fine SAND and SILT, some fine,	and		ML
						medium, coarse gravel, sub-rounded to sub-	SILT		
						angular, moderately sorted, dense			
7	60	65	5/ 6.1			0-1.45' Pale yellowish brown (10YR 6/2)	SAND	0	SP
						saturated* very fine-fine SAND, well sorted			
						1.45-2.4' Dark yellowish brown (10YR 4/2)	SAND		SM-
						dry very fine SAND and SILT, some fine,	and		ML
						medium, coarse gravel, sub-rounded to sub-	SILT		
						angular, moderately sorted, dense			
						2.4-4.6' Pale yellowish brown (10YR 6/2)	SAND	0	SM-
						saturated-damp SILT and very fine SAND,	and		ML
						little fine, medium, coarse gravel,	SILT		
						moderately sorted, sub-angular to rounded			
						4.6-6.1' Moderate yellowish brown (10YR	SAND	0	SP
						5/4) dry coarse SAND, little fine-medium			
						gravel, trace coarse gravel, little-trace fine-			
						very fine sand, sub-angular to sub-rounded,			
						well sorted			
8	65	68	3/3.6			0-1.8' Moderate yellowish brown (10YR 5/4)	SAND	0	SP
						saturated* fine, medium, coarse SAND,			
						trace fine-medium gravel, well sorted, sub-			
						rounded to sub-angular			
						1.8-2.5' Grayish orange pink (5YR 7/2) dry	SILT	0	ML
						SILT and CLAY (rock flour) well sorted**	and		
							CLAY		

NOTES: SAA = Same As Above

*Saturated from sampler

**Rock flour fell out of bottom, intense odor, smoking, drilling bit blackened

SOIL BORING LOG

BORING ID: MW-3

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						2.5-3.6' Moderate yellowish brown (10YR	SAND	0.3	SP
						5/4) moist very fine-fine SAND, well sorted			
9	68	70	2/0			No Recovery			
10	70	75	5/5.9			0-3.2' (10YR 5/2) wet* fine SAND, well	SAND	1.7	SP
						sorted, sub-rounded to angular			
						3.2-4.05' (10YR 5/2) damp very fine SAND	SAND	0.5	SM-
						and SILT, little-trace fine, medium, coarse	and		ML
						gravel, moderately sorted, sub-rounded to	SILT		
						sub-angular, dense			
						4.05-5.9' Moderate yellowish brown (10YR	SAND	0.5	SM-
						5/4) damp very fine SAND and SILT, little-	and		ML
						some fine, medium, coarse gravel, sub-	SILT		
						rounded to sub-angular, dense			
11	75	80	5/8.6			0-1' Pale yellowish brown (10YR 6/2)	SAND	0.1	SP
						saturated* very fine-fine SAND, well sorted			
						1-1.6' (10YR 5/2) saturated* fine-medium	SAND		SP
						SAND, well sorted, trace pale reddish brown			
						(10R 5/4) coloration			
						1.6-2.2' gradual transition from above to:		0.1	
						2.2-3.2' Moderate yellowish brown (10YR	SAND	0.1	SP-
						5/4) saturated* fine-medium SAND, some			SW
						fine, medium, coarse gravel, moderately			
						sorted, at 2.3' dark yellowish orange (10YR			
						6/6) coloration			
						3.2-7.7' (10YR 5/2) damp very fine SAND	SAND	0.1	SM-
						and SILT, little-trace fine, medium, coarse	and		ML
						gravel, moderately sorted, rounded to	SILT		
						angular			
						7.7-8.6' Moderate yellowish brown (10YR	SAND	0	SP-
						5/4) dry-damp fine-medium SAND, trace			SW
						coarse sand, some-little fine, medium,			
						coarse gravel, rounded-angular, at 7.7-7.8			
						coloration change to dark gray (3N3)			
12	80	84.5	4.5/3.7			0-3.6' (10YR 5/2) saturated-wet* very fine-	SAND	0	SM-
						fine SAND and SILT, trace/none-little fine,	and		ML
						medium, coarse gravel, poorly sorted, sub-	SILT		
						rounded to sub-angular, dense**			

NOTES: SAA = Same As Above

*Saturated from sampler

**Unknown amount of fine, medium, coarse gravel fell out of sampler into open borehole

SOIL BORING LOG

BORING ID: MW-3

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
						Moderate yellowish brown (10YR 5/4)			
						coloring at 2-3.7'			
13	84.5	90	5.5/6.2			0-2' light olive gray (5Y 6/1) wet-saturated*	SILT	0	ML
						SILT, some very fine sand, little-some			
						medium-coarse gravel, poorly sorted, sub-			
						angular to sub-rounded, very dense			
						gradual transition of color to:			
						2-3.1' Moderate brown (5YR 4/4) to (10R	SAND	0	SM-
						6/4) dry very fine SAND and SILT, some fine,	and		ML
						medium, coarse gravel, poorly sorted,	SILT		
						angular to sub-rounded			
						3.1-3.9' (10YR 6/4) dry very fine SAND and	SAND	0	SM-
						SILT, some fine-coarse gravel, poorly sorted,	and		ML
						angular to sub-rounded	SILT		
						3.9-4.9' (10YR 6/4) saturated* very fine-fine	SAND	0	SW
						SAND, little medium sand, little fine-medium			
						gravel, poorly sorted, loose, angular to sub-			
						rounded			
						4.9-6.2' Moderate yellowish brown (10YR	SAND	0	SW
						5/4) saturated* medium-coarse SAND, some			
						fine-medium gravel, little fine-very fine sand,			
						little-trace coarse gravel, poorly sorted,			
						angular-rounded, loose			
14	90	100	10/5.7			0-1.1' (10YR 5/2) saturated fine, medium,	GRAVEL	0	GW
						coarse GRAVEL, some-little fine, medium,			
						coarse sand, poorly sorted, loose, angular to			
						sub-rounded			
						1.1-2.2' (10YR 5/2) saturated fine, medium,	SAND	0	SM-
						coarse SAND and SILT, little medium-coarse	and		ML
						gravel, moderately sorted, dense, sub-	SILT		
						rounded to sub-angular			
						2.2-5.7' (5Y 5/1) saturated-wet very fine	SAND	0	SM-
						SAND and SILT, little medium-coarse gravel,	and		ML
						moderately sorted, dense, sub-rounded to	SILT		
						sub-angular			

NOTES:

SOIL BORING LOG

BORING ID: MW-3

INSPECTOR: Sara Hahne

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6'	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	USCS Code
15	100	105	5/9.6			0-2.1' Light olive gray (5Y 5/2) very fine-fine	SAND	0	SM-
						SAND and SILT, little-trace fine, medium,	and		ML
						coarse gravel, sub-angular to sub-rounded,	SILT		
						moderately sorted, dense			
						2.1-6.5' (10YR 5/2) saturated-moist fine-	SAND	0	SW
						medium SAND, some-little silt, some fine-			
						medium gravel, little coarse gravel, poorly			
						sorted, sub-angular to sub-rounded, dense			
						6.5'-9.6' Light olive gray (5Y 5/2) wet-damp	SAND	0	SW-
						fine SAND and fine-medium GRAVEL, little-	and		GW
						trace medium-coarse sand, little-trace	GRAVEL		
						coarse gravel, poorly sorted, angular to			
						sub-rounded		0	
16	105	110	5/8			0-3.45' (5Y 5/1) saturated very fine SAND	SAND		SM-
						and SILT, little-trace fine-medium gravel,	and		ML
						trace coarse gravel, moderately sorted,	SILT		
						gravel is rounded to sub-angular, dense		0	
						3.45-8' (10YR 5/4) dry-saturated/wet fine	SAND		SM-
						SAND and SILT, little dense silt nodules, little-	and		ML
						trace fine-medium gravel, moderately sorted,	SILT		
						transition to wet and fine-medium SAND			
						around 7.35'			

NOTES:

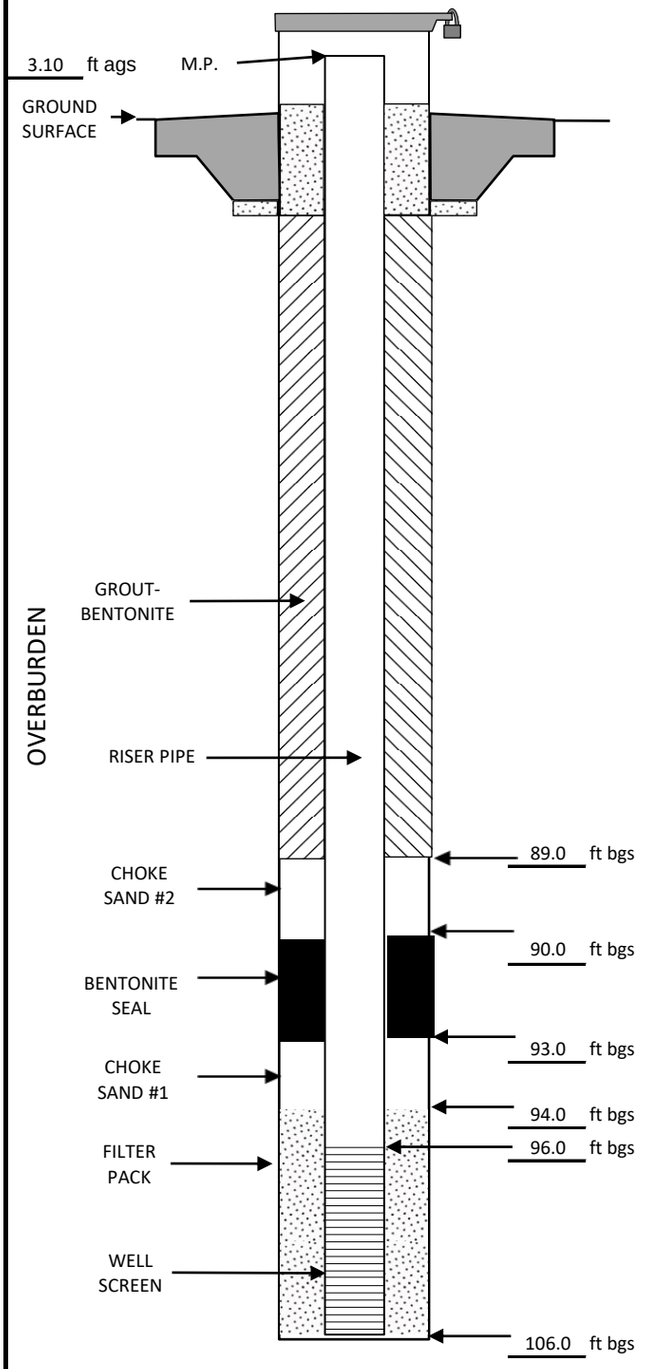
WELL COMPLETION LOG

OBG

Well ID:	MW-1
Northing:	4949845.975
Easting:	611874.414

Site Name:	Sand Road LF	Drilling Subcontractor:	Parratt-Wolff	Date Drilled:	3/15/2019
Site Location:	Schulyer Falls, NY	Master Driller:	Anthony Convery	Date Installed:	3/19/2019
Project #:	65982				
Client:	NYSDEC	Installation Inspector:	Sara Hahne	Date Developed:	3/25/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
in. - Inches
PVC - Polyvinyl Chloride
M.P. - Measurement Point

INSPECTION NOTES

Well Type: Monitoring Well
Static Water Level: 96.50 ft bmp
Measurement Point: PVC

Borehole Advancement

Overburden

Method 1: Hand Clearing **Diameter:** 4"
Interval 1: 0.0 to 5.0 ft bgs
Method 2: Sonic **Diameter:** 6"
Interval 2: 5.0 to 106.0 ft bgs
P. Casing: N/A **Interval:** to ft bgs
Sampling Method:
Type: Sonic **Diameter:** 4"
Weight: N/A **Fall:** N/A
Interval: 0.0 to 106.0 ft bgs

Bedrock

Method: Diameter: in.
Interval: to ft bgs
P. Casing 2: Interval: to ft bgs
P. Casing 3: Interval: to ft bgs
Sampling Method:
Type: Diameter: in.
Interval: to ft bgs

Well Construction

Riser Pipe

Material: PVC **Diameter:** 2"
Interval: -3.1 to 96 ft bgs **Joint:** Thread

Screen

Material: PVC **Diameter:** 2"
Slot Size: Schedule-40 **Joint:** Thread
Interval: 96 to 106 ft bgs

Sump

Material: **Diameter:**
Interval: to ft bgs **Joint:**

Filter Pack

Type: Silica Sand **Grade:** Size 0
Interval: 94 to 106 ft bgs

Seal(s)

Type:	Choke Sand #1	**Interval:**	93	to	94 ft bgs
Type:	Bentonite Chips	**Interval:**	90	to	93 ft bgs
Type:	Choke Sand #2	**Interval:**	89	to	90 ft bgs
Type:	Grout/ Bentonite	**Interval:**	0	to	89 ft bgs

Surface Completion

Type: Stick-Up

Additional Notes:

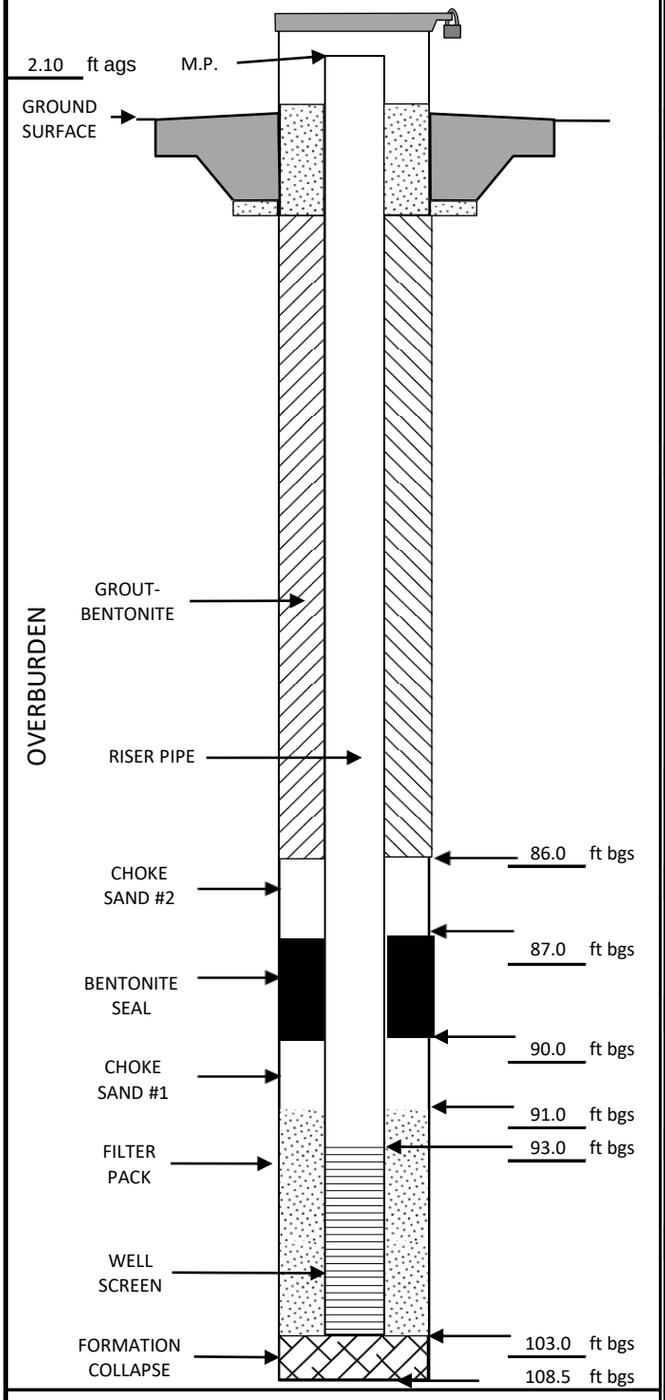
OBG

WELL COMPLETION LOG

Well ID: MW-2
Northing: 4949893.094
Easting: 612156.470

Site Name:	Sand Road LF	Drilling Subcontractor:	Parratt-Wolff	Date Drilled:	3/5-3/11/2019
Site Location:	Schulyer Falls, NY	Master Driller:	Anthony Convery	Date Installed:	3/11-3/12/2019
Project #:	65982				
Client:	NYSDEC	Installation Inspector:	Sara Hahne	Date Developed:	3/20/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
in. - Inches
PVC - Polyvinyl Chloride
M.P. - Measurement Point

INSPECTION NOTES

Well Type: Monitoring Well
Static Water Level: 96.70 ft bmp
Measurement Point: PVC

Borehole Advancement

Overburden

Method 1: Hand Clearing **Diameter:** 12 "
Interval 1: 0.0 to 5.0 ft bgs
Method 2: Sonic **Diameter:** 6"
Interval 2: 5.0 to 108.5 ft bgs
P. Casing: N/A **Interval:** to ft bgs
Sampling Method:
Type: Sonic **Diameter:** 4"
Weight: N/A **Fall:** N/A
Interval: 0.0 to 108.5 ft bgs

Bedrock

Method: Diameter: in.
Interval: to ft bgs
P. Casing 2: Interval: to ft bgs
P. Casing 3: Interval: to ft bgs
Sampling Method:
Type: Diameter: in.
Interval: to ft bgs

Well Construction

Riser Pipe

Material: PVC **Diameter:** 2"
Interval: -2.1 to 93 ft bgs **Joint:** Thread

Screen

Material: PVC **Diameter:** 2"
Slot Size: Schedule-40 **Joint:** Thread
Interval: 93 to 103 ft bgs

Sump

Material: **Diameter:**
Interval: to ft bgs **Joint:**

Filter Pack

Type: Silica Sand **Grade:** Size 0
Interval: 91 to 103 ft bgs

Seal(s)

Type:	Choke Sand #1	**Interval:**	90	to 91	ft bgs
Type:	Bentonite Chips	**Interval:**	87	to 90	ft bgs
Type:	Choke Sand #2	**Interval:**	86	to 87	ft bgs
Type:	Grout/ Bentonite	**Interval:**	0	to 86	ft bgs

Surface Completion

Type: Stick-Up

Additional Notes:

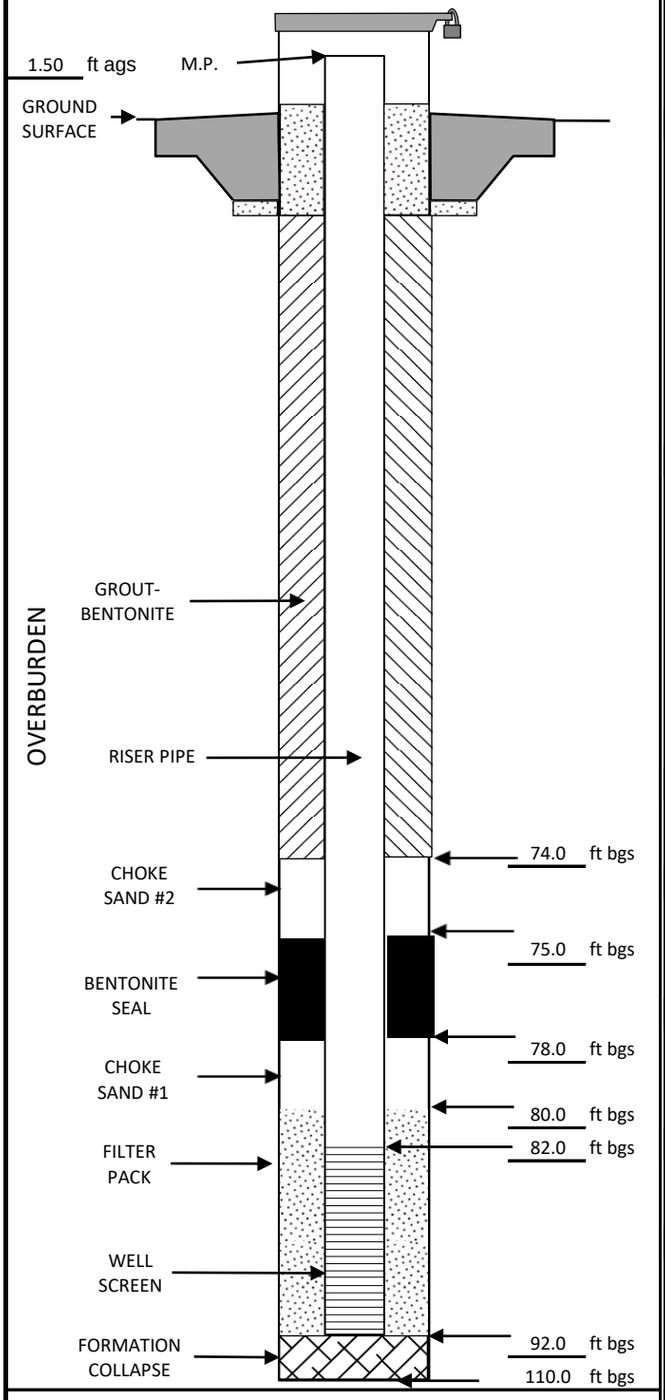
OBG

WELL COMPLETION LOG

Well ID: MW-3
Northing: 4949832.385
Easting: 612109.415

Site Name:	Sand Road LF	Drilling Subcontractor:	Parratt-Wolff	Date Drilled:	3/12/2019
Site Location:	Schulyer Falls, NY	Master Driller:	Anthony Convery	Date Installed:	3/15/2019
Project #:	65982				
Client:	NYSDEC	Installation Inspector:	Sara Hahne	Date Developed:	3/20/2019

WELL CONSTRUCTION DETAIL (NOT TO SCALE)



ft bgs - Feet Below Ground Surface
ft bmp - Feet Below Measuring Point
in. - Inches
PVC - Polyvinyl Chloride
M.P. - Measurement Point

INSPECTION NOTES

Well Type: Monitoring Well
Static Water Level: 85.12 ft bmp
Measurement Point: PVC

Borehole Advancement

Overburden

Method 1: Hand Clearing **Diameter:** 12 "
Interval 1: 0.0 to 5.0 ft bgs
Method 2: Sonic **Diameter:** 6"
Interval 2: 5.0 to 110.0 ft bgs
P. Casing: N/A **Interval:** to ft bgs
Sampling Method:
Type: Sonic **Diameter:** 4"
Weight: N/A **Fall:** N/A
Interval: 0.0 to 110.0 ft bgs

Bedrock

Method: Diameter: in.
Interval: to ft bgs
P. Casing 2: Interval: to ft bgs
P. Casing 3: Interval: to ft bgs
Sampling Method:
Type: Diameter: in.
Interval: to ft bgs

Well Construction

Riser Pipe

Material: PVC **Diameter:** 2"
Interval: -1.5 to 82 ft bgs **Joint:** Thread

Screen

Material: PVC **Diameter:** 2"
Slot Size: Schedule-40 **Joint:** Thread
Interval: 82 to 92 ft bgs

Sump

Material: **Diameter:**
Interval: to ft bgs **Joint:**

Filter Pack

Type: Silica Sand **Grade:** Size 0
Interval: 80 to 92 ft bgs

Seal(s)

Type:	Choke Sand #1	**Interval:**	78	to 80	ft bgs
Type:	Bentonite Chips	**Interval:**	75	to 78	ft bgs
Type:	Choke Sand #2	**Interval:**	74	to 75	ft bgs
Type:	Grout/ Bentonite	**Interval:**	0	to 74	ft bgs

Surface Completion

Type: Stick-Up

Additional Notes:

Attachment 3

Sampling Logs

Low Flow Groundwater Sampling Log

OBG

Well ID: MW-1
Northing: 4949845.975
Easting: 611874.4144

Site Name: Sand Road LF | Sampling Method: Low-Flow | Field Personnel: SLH, MTB
Site Location: Schulyer Falls, NY | Equipment Used: Bladder Pump | Date: 3/27/2018
Project #: 65982 | Pump/Controller ID#: 31983 | Weather: Sun, 20 deg F

Well information:

Installed Depth of Well*: 109 ft. bmp.
Measured Depth of Well*: 109.43 ft. bmp.
Depth to Water*: 101.12 ft. bmp.
Length of Water Column (LWC): 8.31 ft.
Well Diameter: 2.0 in.

Well Volume Multipliers:

☐ 2 in. = 0.163 gal/ft

* Measurement Point: Top of well

☐ Other:

Well Volume: 1.35453 gal.
Pump Intake Depth*: 106.4 ft. bmp.

Start Purge Time: 1010

Initial Observations: *Color* Clear *Odor* None *Sheen/Free Product* None

Select Units from Dropdown Menus

Elapsed Time *Minutes*	Depth to Water *ft bmp*	Temperature *Fahrenheit*	pH *SU*	Specific Conductivity *mS/cm*	ORP *mV*	Dissolved Oxygen *mg/L*	Turbidity *NTU*	Flow Rate *ml/min*	Specific Gravity
0	102.93	44.61	7.04	0.31	116.9	4.81	31.6	100	
5	103.03	44.75	7.07	0.307	114.4	5.32	22.9	100	
10	103.03	44.32	7.14	0.295	104.7	5.92	15.1	100	
15	103.05	44.37	7.13	0.295	104.6	6	13.6	100	
20	103.02	44.25	7.13	0.295	104.3	5.93	14.1	100	
25	103.02	44.2	7.13	0.295	104.1	5.95	13.8	100	
30	103.07	44.38	7.14	0.293	103.1	6.23	13.8	100	
35	103.04	44.28	7.15	0.293	100.4	6.32	13	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1035

DO Titrataion: _____ mg/L

Total volume of groundwater purged: 4 gal.

Final Observations: *Color* Clear *Odor* None *Sheen/Free Product* None

Analytical Sample ID: 5-CLI-004-001-07 **Date:** 3/27/2019 **Time:** 1200

Notes:

OBG

Low Flow Groundwater Sampling Log

Well ID: MW-2
Northing: 4949893.094
Easting: 612156.4704

Site Name: Sand Road LF | Sampling Method: Low-Flow | Field Personnel: SLH, MTB
Site Location: Schulyer Falls, NY | Equipment Used: Bladder Pump | Date: 3/26/2018
Project #: 65982 | Pump/Controller ID#: 31983 | Weather: Sun, 21 deg F

Well information:

Installed Depth of Well*: 106.2 ft. bmp.
Measured Depth of Well*: 107 ft. bmp.
Depth to Water*: 101.45 ft. bmp.
Length of Water Column (LWC): 5.55 ft.
Well Diameter: 2.0 in.

Well Volume Multipliers:

☐ 2 in. = 0.163 gal/ft

* Measurement Point: Top of well

☐ Other:

Well Volume: 0.90465 gal.
Pump Intake Depth*: 104.0 ft. bmp.

Start Purge Time: 1210

Initial Observations: *Color* Clear *Odor* None *Sheen/Free Product* None

Select Units from Dropdown Menus

Elapsed Time *Minutes*	Depth to Water *ft bmp*	Temperature *Fahrenheit*	pH *SU*	Specific Conductivity *mS/cm*	ORP *mV*	Dissolved Oxygen *mg/L*	Turbidity *NTU*	Flow Rate *ml/min*	Specific Gravity
0	102	43.72	6.94	0.615	164.3	4.12	13.3	75	
5	102.09	44.72	6.98	0.615	148.8	3.56	17	75	
10	102.14	45.66	7.05	0.617	127.2	3.11	55.4	75	
15	102.21	46.03	7.11	0.622	105.4	2.62	67.3	75	
20	102.25	46.35	7.14	0.623	91.9	2.26	68.7	75	
25	102.3	46.41	7.18	0.624	77.5	2.04	55.8	75	
30	102.37	46.38	7.2	0.625	68.5	1.98	33.8	60	
35	102.42	46.34	7.23	0.623	60.8	1.97	27.1	60	
40	102.47	46.13	7.25	0.623	52.8	1.99	21.4	60	
45	102.5	45.72	7.26	0.623	50.9	2.02	14.3	60	
50	102.55	45.33	7.26	0.622	47.6	2.05	12.5	60	
55	102.6	45.11	7.27	0.622	44.7	2.06	9.7	60	
60	102.65	45.05	7.29	0.621	41.5	2.1	9.02	60	
65	102.69	45.02	7.32	0.62	32.2	2.24	8.9	60	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1315

DO Titrataion: _____ mg/L

Total volume of groundwater purged: 1.5 gal.

Final Observations: *Color* Clear *Odor* None *Sheen/Free Product* None

Analytical Sample ID: 5-CLI-004-001-02 **Date:** 3/26/2019 **Time:** 1400

Notes:

OBG

Low Flow Groundwater Sampling Log

Well ID: MW-3
Northing: 4949832.385
Easting: 612109.4152

Site Name: Sand Road LF | Sampling Method: Low-Flow | Field Personnel: SLH, MTB
Site Location: Schulyer Falls, NY | Equipment Used: Bladder Pump | Date: 3/26/2018
Project #: 65982 | Pump/Controller ID#: | Weather: Sun, 21 deg F

Well information:

Installed Depth of Well*: 91.16 ft. bmp.
Measured Depth of Well*: 93.43 ft. bmp.
Depth to Water*: 87.49 ft. bmp.
Length of Water Column (LWC): 5.94 ft.
Well Diameter: 2.0 in.

Well Volume Multipliers:

☐ 2 in. = 0.163 gal/ft

* Measurement Point: Top of well

☐ Other:

Well Volume: 0.96822 gal.
Pump Intake Depth*: 89.4 ft. bmp.

Start Purge Time: 920

Initial Observations: *Color* Translucent White *Odor* None *Sheen/Free Product* None

Select Units from Dropdown Menus

Elapsed Time *Minutes*	Depth to Water *ft bmp*	Temperature *Fahrenheit*	pH *SU*	Specific Conductivity *mS/cm*	ORP *mV*	Dissolved Oxygen *mg/L*	Turbidity *NTU*	Flow Rate *ml/min*	Specific Gravity
0	89.66	41.99	7.03	0.271	201.5	3.44	45.1	150	
5	89.66	43.26	7.16	0.253	177	2.85	27.4	175	
10	89.65	43.24	7.18	0.251	169.6	2.78	20.4	175	
15	89.68	43.47	7.19	0.249	156.1	2.73	12.7	175	
20	89.65	43.53	7.2	0.248	163.6	2.7	9.27	175	
25	89.66	43.37	7.2	0.248	1.62.2	2.69	7.36	175	
30	89.66	43.64	7.2	0.248	159.9	2.64	5.53	175	
35	89.66	43.6	7.22	0.248	154.8	2.67	5.87	175	
40	89.66	44.07	7.24	0.249	148.6	2.71	5.12	175	
45	89.66	44.36	7.28	0.249	141.2	2.76	3.85	175	
50	89.66	44.66	7.29	0.248	138.6	2.8	3.61	175	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1010

DO Titrataion: _____ mg/L

Total volume of groundwater purged: 2.5 gal.

Final Observations: *Color* Clear *Odor* None *Sheen/Free Product* None

Analytical Sample ID: 5-CLI-004-001-01 **Date:** 3/26/2019 **Time:** 1040

Notes:

Attachment 4

Analytical Laboratory Level II Data Deliverable

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-150961-1
Client Project/Site: Sand Road, Region 5

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

Attn: Scott Tucker

Authorized for release by:
4/24/2019 5:56:17 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

Table of Contents

Definitions/Glossary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Qualifiers

GC/MS VOA

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.

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.

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.

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: 480-150961-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-150961-1

Receipt
The samples were received on 3/28/2019 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0º C.

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

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

HPLC/IC
Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 5-CLI-004-001-02 (480-150961-2). Elevated reporting limits (RLs) are provided.

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

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

LCMS
Method(s) 537 (modified): 13C2 PFTeDA Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 5-CLI-004-001-07 (480-150961-7). 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): M2-6:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 5-CLI-004-001-02 (480-150961-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): Results for sample 5-CLI-004-001-05 (480-150961-5) were reported from the analysis of a diluted extract due to high concentration of non-target interferences 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

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. 5-CLI-004-001-01 (480-150961-1), 5-CLI-004-001-02 (480-150961-2), 5-CLI-004-001-03 (480-150961-3) and 5-CLI-004-001-07 (480-150961-7).

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

Organic Prep
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: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-01 — Lab Sample ID: 480-150961-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.5	J	10	3.0	ug/L	1		8260C	Total/NA
Aluminum	0.062	J	0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.019		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.0064	J	0.020	0.0040	mg/L	1		6010C	Total/NA
Calcium	32.9		0.50	0.10	mg/L	1		6010C	Total/NA
Iron	0.023	J	0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	7.8		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.086		0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	1.1		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	4.5		1.0	0.32	mg/L	1		6010C	Total/NA
Chloride	4.2		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	18.1		2.0	0.35	mg/L	1		300.0	Total/NA
Total Organic Carbon	0.78	J	1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	105		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	112		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	161		10.0	4.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 5-CLI-004-001-02 — Lab Sample ID: 480-150961-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	15		10	3.0	ug/L	1		8260C	Total/NA
Benzene	0.50	J	1.0	0.41	ug/L	1		8260C	Total/NA
Chloroform	0.58	J	1.0	0.34	ug/L	1		8260C	Total/NA
Toluene	3.5		1.0	0.51	ug/L	1		8260C	Total/NA
Naphthalene	1.4		0.50	0.42	ug/L	1		8270D_LL_PAH	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.46	J	1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	100		1.7	0.86	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7		1.7	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.8		1.7	0.65	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.5	J	1.7	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.90	J	1.7	0.54	ng/L	1		537 (modified)	Total/NA
Aluminum	0.074	J	0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.094		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.031		0.020	0.0040	mg/L	1		6010C	Total/NA
Calcium	74.5		0.50	0.10	mg/L	1		6010C	Total/NA
Cobalt	0.0016	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Iron	0.14		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	20.2		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	1.0		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0017	J	0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	4.6		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	15.8		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0022	J	0.010	0.0015	mg/L	1		6010C	Total/NA
Chloride	39.0		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	123	B	4.0	0.70	mg/L	2		300.0	Total/NA
Chemical Oxygen Demand	47.2		10.0	5.0	mg/L	1		410.4	Total/NA
Total Organic Carbon	13.2		1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	146		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	272		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	415		10.0	4.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-03 — Lab Sample ID: 480-150961-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.3	J	10	3.0	ug/L	1		8260C	Total/NA
Perfluorohexanoic acid (PFHxA)	0.97	J	1.7	0.64	ng/L	1		537 (modified)	Total/NA
Copper	0.0018	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Sulfate	0.38	J	2.0	0.35	mg/L	1		300.0	Total/NA

Client Sample ID: 5-CLI-004-001-04 — Lab Sample ID: 480-150961-4

No Detections.

Client Sample ID: 5-CLI-004-001-05 — Lab Sample ID: 480-150961-5

No Detections.

Client Sample ID: 5-CLI-004-001-06 — Lab Sample ID: 480-150961-6

No Detections.

Client Sample ID: 5-CLI-004-001-07 — Lab Sample ID: 480-150961-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.90		0.50	0.42	ug/L	1		8270D_LL_PAH	Total/NA
Perfluorobutanoic acid (PFBA)	4.9		1.7	0.83	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.62	J	1.7	0.53	ng/L	1		537 (modified)	Total/NA
Aluminum	0.18	J	0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.019		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.0079	J	0.020	0.0040	mg/L	1		6010C	Total/NA
Calcium	27.5		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0013	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Copper	0.0020	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	0.29		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	12.1		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.028		0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	1.9		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	5.1		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0024	J	0.010	0.0015	mg/L	1		6010C	Total/NA
Chloride	10.6		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	18.5		2.0	0.35	mg/L	1		300.0	Total/NA
Chemical Oxygen Demand	106		10.0	5.0	mg/L	1		410.4	Total/NA
Total Organic Carbon	32.6		1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	104		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	120		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	163		10.0	4.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 5-CLI-004-001-08 — Lab Sample ID: 480-150961-8

No Detections.

This Detection Summary does not include radiochemical test results.

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-01
Date Collected: 03/26/19 10:40
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-1
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		1.0	0.35	ug/L			03/29/19 23:46	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/29/19 23:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/29/19 23:46	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/29/19 23:46	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/29/19 23:46	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/29/19 23:46	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/29/19 23:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/29/19 23:46	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/29/19 23:46	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/29/19 23:46	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/29/19 23:46	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/29/19 23:46	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/29/19 23:46	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/29/19 23:46	1
2-Hexanone	ND		5.0	1.2	ug/L			03/29/19 23:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/29/19 23:46	1
Acetone	**4.5**	**J**	10	3.0	ug/L			03/29/19 23:46	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/29/19 23:46	1
Benzene	ND		1.0	0.41	ug/L			03/29/19 23:46	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/29/19 23:46	1
Bromoform	ND		1.0	0.26	ug/L			03/29/19 23:46	1
Bromomethane	ND		1.0	0.69	ug/L			03/29/19 23:46	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/29/19 23:46	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/29/19 23:46	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/29/19 23:46	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/29/19 23:46	1
Chloroethane	ND		1.0	0.32	ug/L			03/29/19 23:46	1
Chloroform	ND		1.0	0.34	ug/L			03/29/19 23:46	1
Chloromethane	ND		1.0	0.35	ug/L			03/29/19 23:46	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/29/19 23:46	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/29/19 23:46	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/29/19 23:46	1
Dibromomethane	ND		1.0	0.41	ug/L			03/29/19 23:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/29/19 23:46	1
Iodomethane	ND		1.0	0.30	ug/L			03/29/19 23:46	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/29/19 23:46	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/29/19 23:46	1
o-Xylene	ND		1.0	0.76	ug/L			03/29/19 23:46	1
Styrene	ND		1.0	0.73	ug/L			03/29/19 23:46	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/29/19 23:46	1
Toluene	ND		1.0	0.51	ug/L			03/29/19 23:46	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/29/19 23:46	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/29/19 23:46	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/29/19 23:46	1
Trichloroethene	ND		1.0	0.46	ug/L			03/29/19 23:46	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/29/19 23:46	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/29/19 23:46	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/29/19 23:46	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/29/19 23:46	1

Client Sample ID: 5-CLI-004-001-01

Date Collected: 03/26/19 10:40
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*03/29/19 23:46*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*03/29/19 23:46*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*03/29/19 23:46*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/29/19 23:46*	*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		03/28/19 14:14	03/29/19 22:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*26*		*15 - 110*	*03/28/19 14:14*	*03/29/19 22:55*	*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		04/01/19 08:31	04/02/19 17:46	1
Acenaphthylene	ND		0.50	0.34	ug/L		04/01/19 08:31	04/02/19 17:46	1
Anthracene	ND		0.50	0.39	ug/L		04/01/19 08:31	04/02/19 17:46	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		04/01/19 08:31	04/02/19 17:46	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 17:46	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		04/01/19 08:31	04/02/19 17:46	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 17:46	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		04/01/19 08:31	04/02/19 17:46	1
Chrysene	ND		0.50	0.32	ug/L		04/01/19 08:31	04/02/19 17:46	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 17:46	1
Fluoranthene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 17:46	1
Fluorene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 17:46	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		04/01/19 08:31	04/02/19 17:46	1
Naphthalene	ND		0.50	0.42	ug/L		04/01/19 08:31	04/02/19 17:46	1
Phenanthrene	ND		0.50	0.38	ug/L		04/01/19 08:31	04/02/19 17:46	1
Pyrene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*48 - 120*	*04/01/19 08:31*	*04/02/19 17:46*	*1*
Nitrobenzene-d5	*87*		*46 - 120*	*04/01/19 08:31*	*04/02/19 17:46*	*1*
p-Terphenyl-d14	*59*		*24 - 136*	*04/01/19 08:31*	*04/02/19 17:46*	*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		17	2.4	ng/L		03/29/19 07:00	04/03/19 07:36	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	3.8	ng/L		03/29/19 07:00	04/03/19 07:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		03/29/19 07:00	04/03/19 07:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorobutanoic acid (PFBA)	ND		1.7	0.84	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.64	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.49	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79	ng/L		03/29/19 07:00	04/03/19 07:36	1

Client Sample ID: 5-CLI-004-001-01
Date Collected: 03/26/19 10:40
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.76	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.67	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.64	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.54	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.77	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.50	ng/L		03/29/19 07:00	04/03/19 07:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		03/29/19 07:00	04/03/19 07:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*83*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C2 PFDoA	*78*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C2 PFHxA	*84*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C2 PFUnA	*86*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C3 PFBS	*94*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C4 PFBA	*74*		*25 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C4 PFOA	*81*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C4 PFOS	*68*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C4 PFHpA	*78*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C5 PFNA	*84*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C5 PFPeA	*73*		*25 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
13C8 FOSA	*55*		*25 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
18O2 PFHxS	*82*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
d3-NMeFOSAA	*72*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
d5-NEtFOSAA	*88*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
M2-6:2 FTS	*123*		*25 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*
M2-8:2 FTS	*88*		*25 - 150*	*03/29/19 07:00*	*04/03/19 07:36*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.062**	**J**	0.20	0.060	mg/L		03/29/19 08:45	03/29/19 19:02	1
Antimony	ND		0.020	0.0068	mg/L		03/29/19 08:45	03/29/19 19:02	1
Arsenic	ND		0.015	0.0056	mg/L		03/29/19 08:45	03/29/19 19:02	1
Barium	**0.019**		0.0020	0.00070	mg/L		03/29/19 08:45	03/29/19 19:02	1
Beryllium	ND		0.0020	0.00030	mg/L		03/29/19 08:45	03/29/19 19:02	1
Boron	**0.0064**	**J**	0.020	0.0040	mg/L		03/29/19 08:45	03/29/19 19:02	1
Cadmium	ND		0.0020	0.00050	mg/L		03/29/19 08:45	03/29/19 19:02	1
Calcium	**32.9**		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:02	1
Chromium	ND		0.0040	0.0010	mg/L		03/29/19 08:45	03/29/19 19:02	1
Cobalt	ND		0.0040	0.00063	mg/L		03/29/19 08:45	03/29/19 19:02	1
Copper	ND		0.010	0.0016	mg/L		03/29/19 08:45	03/29/19 19:02	1
Iron	**0.023**	**J**	0.050	0.019	mg/L		03/29/19 08:45	03/29/19 19:02	1
Lead	ND		0.010	0.0030	mg/L		03/29/19 08:45	03/29/19 19:02	1
Magnesium	**7.8**		0.20	0.043	mg/L		03/29/19 08:45	03/29/19 19:02	1
Manganese	**0.086**		0.0030	0.00040	mg/L		03/29/19 08:45	03/29/19 19:02	1
Nickel	ND		0.010	0.0013	mg/L		03/29/19 08:45	03/29/19 19:02	1

Client Sample ID: 5-CLI-004-001-01

Lab Sample ID: 480-150961-1

Date Collected: 03/26/19 10:40

Matrix: Water

Date Received: 03/28/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**1.1**		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:02	1
Selenium	ND		0.025	0.0087	mg/L		03/29/19 08:45	03/29/19 19:02	1
Silver	ND		0.0060	0.0017	mg/L		03/29/19 08:45	03/29/19 19:02	1
Sodium	**4.5**		1.0	0.32	mg/L		03/29/19 08:45	03/29/19 19:02	1
Thallium	ND		0.020	0.010	mg/L		03/29/19 08:45	03/29/19 19:02	1
Vanadium	ND		0.0050	0.0015	mg/L		03/29/19 08:45	03/29/19 19:02	1
Zinc	ND		0.010	0.0015	mg/L		03/29/19 08:45	03/29/19 19:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/19 11:17	03/28/19 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			04/01/19 11:46	1
Chloride	**4.2**		0.50	0.28	mg/L			04/01/19 11:46	1
Sulfate	**18.1**		2.0	0.35	mg/L			04/01/19 11:46	1
Ammonia	ND		0.020	0.0090	mg/L			04/11/19 10:09	1
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			04/11/19 19:00	1
Total Organic Carbon	**0.78**	**J**	1.0	0.43	mg/L			03/29/19 22:26	1
Alkalinity, Total	**105**		5.0	0.79	mg/L			04/09/19 12:39	1
Total hardness as CaCO3	**112**		4.0	1.1	mg/L			04/23/19 10:15	1
Total Dissolved Solids	**161**		10.0	4.0	mg/L			04/02/19 06:06	1

Client Sample ID: 5-CLI-004-001-02

Lab Sample ID: 480-150961-2

Date Collected: 03/26/19 14:00

Matrix: Water

Date Received: 03/28/19 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			03/30/19 00:09	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/30/19 00:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/30/19 00:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/30/19 00:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/30/19 00:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/30/19 00:09	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/30/19 00:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/30/19 00:09	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/30/19 00:09	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/30/19 00:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/30/19 00:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/30/19 00:09	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/30/19 00:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/30/19 00:09	1
2-Hexanone	ND		5.0	1.2	ug/L			03/30/19 00:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/30/19 00:09	1
Acetone	**15**		10	3.0	ug/L			03/30/19 00:09	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/30/19 00:09	1
Benzene	**0.50**	**J**	1.0	0.41	ug/L			03/30/19 00:09	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/30/19 00:09	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-02
Date Collected: 03/26/19 14:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0	0.26	ug/L			03/30/19 00:09	1
Bromomethane	ND		1.0	0.69	ug/L			03/30/19 00:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/30/19 00:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/30/19 00:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/30/19 00:09	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/30/19 00:09	1
Chloroethane	ND		1.0	0.32	ug/L			03/30/19 00:09	1
Chloroform	**0.58**	**J**	1.0	0.34	ug/L			03/30/19 00:09	1
Chloromethane	ND		1.0	0.35	ug/L			03/30/19 00:09	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/30/19 00:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/30/19 00:09	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/30/19 00:09	1
Dibromomethane	ND		1.0	0.41	ug/L			03/30/19 00:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/30/19 00:09	1
Iodomethane	ND		1.0	0.30	ug/L			03/30/19 00:09	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/30/19 00:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/30/19 00:09	1
o-Xylene	ND		1.0	0.76	ug/L			03/30/19 00:09	1
Styrene	ND		1.0	0.73	ug/L			03/30/19 00:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/30/19 00:09	1
Toluene	**3.5**		1.0	0.51	ug/L			03/30/19 00:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/30/19 00:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/30/19 00:09	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/30/19 00:09	1
Trichloroethene	ND		1.0	0.46	ug/L			03/30/19 00:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/30/19 00:09	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/30/19 00:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/30/19 00:09	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/30/19 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*03/30/19 00:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*03/30/19 00:09*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*03/30/19 00:09*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*03/30/19 00:09*	*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		03/28/19 14:14	03/29/19 23:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*26*		*15 - 110*	*03/28/19 14:14*	*03/29/19 23:19*	*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		04/01/19 08:31	04/02/19 18:14	1
Acenaphthylene	ND		0.50	0.34	ug/L		04/01/19 08:31	04/02/19 18:14	1
Anthracene	ND		0.50	0.39	ug/L		04/01/19 08:31	04/02/19 18:14	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		04/01/19 08:31	04/02/19 18:14	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 18:14	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		04/01/19 08:31	04/02/19 18:14	1

Client Sample ID: 5-CLI-004-001-02
Date Collected: 03/26/19 14:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-2
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[g,h,i]perylene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 18:14	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		04/01/19 08:31	04/02/19 18:14	1
Chrysene	ND		0.50	0.32	ug/L		04/01/19 08:31	04/02/19 18:14	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 18:14	1
Fluoranthene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 18:14	1
Fluorene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 18:14	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		04/01/19 08:31	04/02/19 18:14	1
Naphthalene	**1.4**		0.50	0.42	ug/L		04/01/19 08:31	04/02/19 18:14	1
Phenanthrene	ND		0.50	0.38	ug/L		04/01/19 08:31	04/02/19 18:14	1
Pyrene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*48 - 120*	*04/01/19 08:31*	*04/02/19 18:14*	*1*
Nitrobenzene-d5	*93*		*46 - 120*	*04/01/19 08:31*	*04/02/19 18:14*	*1*
p-Terphenyl-d14	*54*		*24 - 136*	*04/01/19 08:31*	*04/02/19 18:14*	*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		17	2.5	ng/L		03/29/19 07:00	04/03/19 07:52	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	4.0	ng/L		03/29/19 07:00	04/03/19 07:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		03/29/19 07:00	04/03/19 07:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorobutanesulfonic acid (PFBS)	**0.46**	**J**	1.7	0.42	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorobutanoic acid (PFBA)	**100**		1.7	0.86	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.66	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluoroheptanoic acid (PFHpA)	**1.7**		1.7	0.78	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.69	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorohexanoic acid (PFHxA)	**1.8**		1.7	0.65	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.55	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorooctanoic acid (PFOA)	**1.5**	**J**	1.7	0.54	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluoropentanoic acid (PFPeA)	**0.90**	**J**	1.7	0.54	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.79	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 07:52	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		03/29/19 07:00	04/03/19 07:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*84*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:52*	*1*
13C2 PFDoA	*83*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:52*	*1*
13C2 PFHxA	*66*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:52*	*1*
13C2 PFUnA	*85*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:52*	*1*
13C2 PFTeDA	*73*		*50 - 150*	*03/29/19 07:00*	*04/03/19 07:52*	*1*

Client Sample ID: 5-CLI-004-001-02
Date Collected: 03/26/19 14:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-2
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	84		50 - 150	03/29/19 07:00	04/03/19 07:52	1
13C4 PFBA	52		25 - 150	03/29/19 07:00	04/03/19 07:52	1
13C4 PFOA	79		50 - 150	03/29/19 07:00	04/03/19 07:52	1
13C4 PFOS	74		50 - 150	03/29/19 07:00	04/03/19 07:52	1
13C4 PFHpA	75		50 - 150	03/29/19 07:00	04/03/19 07:52	1
13C5 PFNA	80		50 - 150	03/29/19 07:00	04/03/19 07:52	1
13C5 PFPeA	62		25 - 150	03/29/19 07:00	04/03/19 07:52	1
13C8 FOSA	48		25 - 150	03/29/19 07:00	04/03/19 07:52	1
18O2 PFHxS	77		50 - 150	03/29/19 07:00	04/03/19 07:52	1
d3-NMeFOSAA	80		50 - 150	03/29/19 07:00	04/03/19 07:52	1
d5-NEtFOSAA	95		50 - 150	03/29/19 07:00	04/03/19 07:52	1
M2-6:2 FTS	263	*	25 - 150	03/29/19 07:00	04/03/19 07:52	1
M2-8:2 FTS	129		25 - 150	03/29/19 07:00	04/03/19 07:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.074**	**J**	0.20	0.060	mg/L		03/29/19 08:45	03/29/19 19:06	1
Antimony	ND		0.020	0.0068	mg/L		03/29/19 08:45	03/29/19 19:06	1
Arsenic	ND		0.015	0.0056	mg/L		03/29/19 08:45	03/29/19 19:06	1
Barium	**0.094**		0.0020	0.00070	mg/L		03/29/19 08:45	03/29/19 19:06	1
Beryllium	ND		0.0020	0.00030	mg/L		03/29/19 08:45	03/29/19 19:06	1
Boron	**0.031**		0.020	0.0040	mg/L		03/29/19 08:45	03/29/19 19:06	1
Cadmium	ND		0.0020	0.00050	mg/L		03/29/19 08:45	03/29/19 19:06	1
Calcium	**74.5**		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:06	1
Chromium	ND		0.0040	0.0010	mg/L		03/29/19 08:45	03/29/19 19:06	1
Cobalt	**0.0016**	**J**	0.0040	0.00063	mg/L		03/29/19 08:45	03/29/19 19:06	1
Copper	ND		0.010	0.0016	mg/L		03/29/19 08:45	03/29/19 19:06	1
Iron	**0.14**		0.050	0.019	mg/L		03/29/19 08:45	03/29/19 19:06	1
Lead	ND		0.010	0.0030	mg/L		03/29/19 08:45	03/29/19 19:06	1
Magnesium	**20.2**		0.20	0.043	mg/L		03/29/19 08:45	03/29/19 19:06	1
Manganese	**1.0**		0.0030	0.00040	mg/L		03/29/19 08:45	03/29/19 19:06	1
Nickel	**0.0017**	**J**	0.010	0.0013	mg/L		03/29/19 08:45	03/29/19 19:06	1
Potassium	**4.6**		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:06	1
Selenium	ND		0.025	0.0087	mg/L		03/29/19 08:45	03/29/19 19:06	1
Silver	ND		0.0060	0.0017	mg/L		03/29/19 08:45	03/29/19 19:06	1
Sodium	**15.8**		1.0	0.32	mg/L		03/29/19 08:45	03/29/19 19:06	1
Thallium	ND		0.020	0.010	mg/L		03/29/19 08:45	03/29/19 19:06	1
Vanadium	ND		0.0050	0.0015	mg/L		03/29/19 08:45	03/29/19 19:06	1
Zinc	**0.0022**	**J**	0.010	0.0015	mg/L		03/29/19 08:45	03/29/19 19:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/19 11:17	03/28/19 14:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			04/01/19 12:01	1
Chloride	**39.0**		0.50	0.28	mg/L			04/01/19 12:01	1
Sulfate	**123**	**B**	4.0	0.70	mg/L			04/01/19 17:52	2
Ammonia	ND		0.020	0.0090	mg/L			04/11/19 10:10	1

Client Sample ID: 5-CLI-004-001-02

Lab Sample ID: 480-150961-2

Date Collected: 03/26/19 14:00

Matrix: Water

Date Received: 03/28/19 01:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	47.2		10.0	5.0	mg/L			04/11/19 19:00	1
Total Organic Carbon	13.2		1.0	0.43	mg/L			03/29/19 22:55	1
Alkalinity, Total	146		5.0	0.79	mg/L			04/09/19 12:46	1
Total hardness as CaCO3	272		4.0	1.1	mg/L			04/23/19 10:15	1
Total Dissolved Solids	415		10.0	4.0	mg/L			04/02/19 06:06	1

Client Sample ID: 5-CLI-004-001-03

Lab Sample ID: 480-150961-3

Date Collected: 03/26/19 11:30

Matrix: Water

Date Received: 03/28/19 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			03/30/19 00:33	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/30/19 00:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/30/19 00:33	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/30/19 00:33	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/30/19 00:33	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/30/19 00:33	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/30/19 00:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/30/19 00:33	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/30/19 00:33	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/30/19 00:33	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/30/19 00:33	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/30/19 00:33	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/30/19 00:33	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/30/19 00:33	1
2-Hexanone	ND		5.0	1.2	ug/L			03/30/19 00:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/30/19 00:33	1
Acetone	6.3	J	10	3.0	ug/L			03/30/19 00:33	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/30/19 00:33	1
Benzene	ND		1.0	0.41	ug/L			03/30/19 00:33	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/30/19 00:33	1
Bromoform	ND		1.0	0.26	ug/L			03/30/19 00:33	1
Bromomethane	ND		1.0	0.69	ug/L			03/30/19 00:33	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/30/19 00:33	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/30/19 00:33	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/30/19 00:33	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/30/19 00:33	1
Chloroethane	ND		1.0	0.32	ug/L			03/30/19 00:33	1
Chloroform	ND		1.0	0.34	ug/L			03/30/19 00:33	1
Chloromethane	ND		1.0	0.35	ug/L			03/30/19 00:33	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/30/19 00:33	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/30/19 00:33	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/30/19 00:33	1
Dibromomethane	ND		1.0	0.41	ug/L			03/30/19 00:33	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/30/19 00:33	1
Iodomethane	ND		1.0	0.30	ug/L			03/30/19 00:33	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/30/19 00:33	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/30/19 00:33	1
o-Xylene	ND		1.0	0.76	ug/L			03/30/19 00:33	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-03
Date Collected: 03/26/19 11:30
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.73	ug/L			03/30/19 00:33	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/30/19 00:33	1
Toluene	ND		1.0	0.51	ug/L			03/30/19 00:33	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/30/19 00:33	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/30/19 00:33	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/30/19 00:33	1
Trichloroethene	ND		1.0	0.46	ug/L			03/30/19 00:33	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/30/19 00:33	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/30/19 00:33	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/30/19 00:33	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/30/19 00:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*03/30/19 00:33*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*03/30/19 00:33*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*03/30/19 00:33*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/30/19 00:33*	*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		03/28/19 14:14	03/29/19 23:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*26*		*15 - 110*	*03/28/19 14:14*	*03/29/19 23:42*	*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		04/01/19 08:31	04/02/19 18:43	1
Acenaphthylene	ND		0.50	0.34	ug/L		04/01/19 08:31	04/02/19 18:43	1
Anthracene	ND		0.50	0.39	ug/L		04/01/19 08:31	04/02/19 18:43	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		04/01/19 08:31	04/02/19 18:43	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 18:43	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		04/01/19 08:31	04/02/19 18:43	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 18:43	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		04/01/19 08:31	04/02/19 18:43	1
Chrysene	ND		0.50	0.32	ug/L		04/01/19 08:31	04/02/19 18:43	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 18:43	1
Fluoranthene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 18:43	1
Fluorene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 18:43	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		04/01/19 08:31	04/02/19 18:43	1
Naphthalene	ND		0.50	0.42	ug/L		04/01/19 08:31	04/02/19 18:43	1
Phenanthrene	ND		0.50	0.38	ug/L		04/01/19 08:31	04/02/19 18:43	1
Pyrene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*48 - 120*	*04/01/19 08:31*	*04/02/19 18:43*	*1*
Nitrobenzene-d5	*90*		*46 - 120*	*04/01/19 08:31*	*04/02/19 18:43*	*1*
p-Terphenyl-d14	*81*		*24 - 136*	*04/01/19 08:31*	*04/02/19 18:43*	*1*

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-03
Date Collected: 03/26/19 11:30
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-3
Matrix: Water

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		17	2.5	ng/L		03/29/19 07:00	04/03/19 08:08	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	3.9	ng/L		03/29/19 07:00	04/03/19 08:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		03/29/19 07:00	04/03/19 08:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorobutanoic acid (PFBA)	ND		1.7	0.85	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.65	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.77	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorohexanoic acid (PFHxA)	**0.97**	**J**	1.7	0.64	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.54	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.78	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 08:08	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45	ng/L		03/29/19 07:00	04/03/19 08:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C2 PFDoA	*82*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C2 PFHxA	*88*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C2 PFUnA	*90*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C2 PFTeDA	*66*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C3 PFBS	*97*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C4 PFBA	*85*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C4 PFOA	*76*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C4 PFOS	*71*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C4 PFHpA	*78*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C5 PFNA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C5 PFPeA	*86*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
13C8 FOSA	*44*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
18O2 PFHxS	*84*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
d3-NMeFOSAA	*73*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
d5-NEtFOSAA	*93*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
M2-6:2 FTS	*101*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*
M2-8:2 FTS	*92*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:08*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/29/19 08:45	03/29/19 19:10	1
Antimony	ND		0.020	0.0068	mg/L		03/29/19 08:45	03/29/19 19:10	1
Arsenic	ND		0.015	0.0056	mg/L		03/29/19 08:45	03/29/19 19:10	1

Client Sample ID: 5-CLI-004-001-03

Lab Sample ID: 480-150961-3

Date Collected: 03/26/19 11:30

Matrix: Water

Date Received: 03/28/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0020	0.00070	mg/L		03/29/19 08:45	03/29/19 19:10	1
Beryllium	ND		0.0020	0.00030	mg/L		03/29/19 08:45	03/29/19 19:10	1
Boron	ND		0.020	0.0040	mg/L		03/29/19 08:45	03/29/19 19:10	1
Cadmium	ND		0.0020	0.00050	mg/L		03/29/19 08:45	03/29/19 19:10	1
Calcium	ND		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:10	1
Chromium	ND		0.0040	0.0010	mg/L		03/29/19 08:45	03/29/19 19:10	1
Cobalt	ND		0.0040	0.00063	mg/L		03/29/19 08:45	03/29/19 19:10	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		03/29/19 08:45	03/29/19 19:10	1
Iron	ND		0.050	0.019	mg/L		03/29/19 08:45	03/29/19 19:10	1
Lead	ND		0.010	0.0030	mg/L		03/29/19 08:45	03/29/19 19:10	1
Magnesium	ND		0.20	0.043	mg/L		03/29/19 08:45	03/29/19 19:10	1
Manganese	ND		0.0030	0.00040	mg/L		03/29/19 08:45	03/29/19 19:10	1
Nickel	ND		0.010	0.0013	mg/L		03/29/19 08:45	03/29/19 19:10	1
Potassium	ND		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:10	1
Selenium	ND		0.025	0.0087	mg/L		03/29/19 08:45	03/29/19 19:10	1
Silver	ND		0.0060	0.0017	mg/L		03/29/19 08:45	03/29/19 19:10	1
Sodium	ND		1.0	0.32	mg/L		03/29/19 08:45	03/29/19 19:10	1
Thallium	ND		0.020	0.010	mg/L		03/29/19 08:45	03/29/19 19:10	1
Vanadium	ND		0.0050	0.0015	mg/L		03/29/19 08:45	03/29/19 19:10	1
Zinc	ND		0.010	0.0015	mg/L		03/29/19 08:45	03/29/19 19:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/19 11:17	03/28/19 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			04/01/19 12:15	1
Chloride	ND		0.50	0.28	mg/L			04/01/19 12:15	1
Sulfate	**0.38**	**J**	2.0	0.35	mg/L			04/01/19 12:15	1
Ammonia	ND		0.020	0.0090	mg/L			04/11/19 10:11	1
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			04/11/19 19:00	1
Total Organic Carbon	ND		1.0	0.43	mg/L			03/29/19 23:23	1
Alkalinity, Total	ND		5.0	0.79	mg/L			04/09/19 12:52	1
Total hardness as CaCO3	ND		4.0	1.1	mg/L			04/23/19 10:15	1
Total Dissolved Solids	ND		10.0	4.0	mg/L			04/02/19 06:06	1

Client Sample ID: 5-CLI-004-001-04

Lab Sample ID: 480-150961-4

Date Collected: 03/26/19 11:40

Matrix: Water

Date Received: 03/28/19 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		17	2.4	ng/L		03/29/19 07:00	04/03/19 08:24	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	3.8	ng/L		03/29/19 07:00	04/03/19 08:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.2	ng/L		03/29/19 07:00	04/03/19 08:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		03/29/19 07:00	04/03/19 08:24	1

Client Sample ID: 5-CLI-004-001-04

Lab Sample ID: 480-150961-4

Date Collected: 03/26/19 11:40

Matrix: Water

Date Received: 03/28/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorobutanoic acid (PFBA)	ND		1.7	0.83	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.64	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.49	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.76	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.66	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.63	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.22	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.76	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.50	ng/L		03/29/19 07:00	04/03/19 08:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		03/29/19 07:00	04/03/19 08:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C2 PFDoA	*63*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C2 PFHxA	*92*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C2 PFUnA	*73*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C2 PFTeDA	*63*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C3 PFBS	*82*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C4 PFBA	*92*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C4 PFOA	*81*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C4 PFOS	*69*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C4 PFHpA	*84*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C5 PFNA	*85*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C5 PFPeA	*102*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
13C8 FOSA	*36*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
18O2 PFHxS	*69*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
d3-NMeFOSAA	*65*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
d5-NEtFOSAA	*74*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
M2-6:2 FTS	*106*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*
M2-8:2 FTS	*77*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:24*	*1*

Client Sample ID: 5-CLI-004-001-05

Lab Sample ID: 480-150961-5

Date Collected: 03/27/19 07:50

Matrix: Water

Date Received: 03/28/19 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		17	2.4	ng/L		03/29/19 07:00	04/03/19 08:40	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	3.8	ng/L		03/29/19 07:00	04/03/19 08:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		83	6.2	ng/L		03/29/19 07:00	04/03/19 14:11	5

Client Sample ID: 5-CLI-004-001-05

Lab Sample ID: 480-150961-5

Date Collected: 03/27/19 07:50

Matrix: Water

Date Received: 03/28/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		83	7.1	ng/L		03/29/19 07:00	04/03/19 14:11	5
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorobutanoic acid (PFBA)	ND		1.7	0.83	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.64	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorododecanoic acid (PFDoA)	ND		8.3	2.5	ng/L		03/29/19 07:00	04/03/19 14:11	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.76	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.67	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.63	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.22	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		8.3	2.7	ng/L		03/29/19 07:00	04/03/19 14:11	5
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 08:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		8.3	3.8	ng/L		03/29/19 07:00	04/03/19 14:11	5
Perfluorotridecanoic acid (PFTriA)	ND		8.3	2.5	ng/L		03/29/19 07:00	04/03/19 14:11	5
Perfluoroundecanoic acid (PFUnA)	ND		8.3	2.2	ng/L		03/29/19 07:00	04/03/19 14:11	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*74*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C2 PFDoA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 14:11*	*5*
13C2 PFHxA	*86*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C2 PFUnA	*88*		*50 - 150*	*03/29/19 07:00*	*04/03/19 14:11*	*5*
13C2 PFTeDA	*69*		*50 - 150*	*03/29/19 07:00*	*04/03/19 14:11*	*5*
13C3 PFBS	*78*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C4 PFBA	*73*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C4 PFOA	*77*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C4 PFOS	*65*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C4 PFHpA	*78*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C5 PFNA	*79*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C5 PFPeA	*82*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
13C8 FOSA	*40*		*25 - 150*	*03/29/19 07:00*	*04/03/19 14:11*	*5*
18O2 PFHxS	*88*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
d3-NMeFOSAA	*81*		*50 - 150*	*03/29/19 07:00*	*04/03/19 14:11*	*5*
d5-NEtFOSAA	*95*		*50 - 150*	*03/29/19 07:00*	*04/03/19 14:11*	*5*
M2-6:2 FTS	*112*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*
M2-8:2 FTS	*127*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:40*	*1*

Client Sample ID: 5-CLI-004-001-06

Lab Sample ID: 480-150961-6

Date Collected: 03/27/19 07:45

Matrix: Water

Date Received: 03/28/19 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		17	2.5	ng/L		03/29/19 07:00	04/03/19 08:55	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	3.9	ng/L		03/29/19 07:00	04/03/19 08:55	1

Client Sample ID: 5-CLI-004-001-06

Lab Sample ID: 480-150961-6

Date Collected: 03/27/19 07:45

Matrix: Water

Date Received: 03/28/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		03/29/19 07:00	04/03/19 08:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorobutanoic acid (PFBA)	ND		1.7	0.85	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.66	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.78	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.65	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.55	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.52	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.54	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.79	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 08:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45	ng/L		03/29/19 07:00	04/03/19 08:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C2 PFDoA	*71*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C2 PFHxA	*86*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C2 PFUnA	*77*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C2 PFTeDA	*71*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C3 PFBS	*93*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C4 PFBA	*77*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C4 PFOA	*79*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C4 PFOS	*71*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C4 PFHpA	*83*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C5 PFNA	*82*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C5 PFPeA	*106*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
13C8 FOSA	*52*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
18O2 PFHxS	*77*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
d3-NMeFOSAA	*70*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
d5-NEtFOSAA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
M2-6:2 FTS	*113*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*
M2-8:2 FTS	*76*		*25 - 150*	*03/29/19 07:00*	*04/03/19 08:55*	*1*

Client Sample ID: 5-CLI-004-001-07

Lab Sample ID: 480-150961-7

Date Collected: 03/27/19 12:00

Matrix: Water

Date Received: 03/28/19 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			03/30/19 00:56	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/30/19 00:56	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-07
Date Collected: 03/27/19 12:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/30/19 00:56	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/30/19 00:56	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/30/19 00:56	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/30/19 00:56	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/30/19 00:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/30/19 00:56	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/30/19 00:56	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/30/19 00:56	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/30/19 00:56	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/30/19 00:56	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/30/19 00:56	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/30/19 00:56	1
2-Hexanone	ND		5.0	1.2	ug/L			03/30/19 00:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/30/19 00:56	1
Acetone	ND		10	3.0	ug/L			03/30/19 00:56	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/30/19 00:56	1
Benzene	ND		1.0	0.41	ug/L			03/30/19 00:56	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/30/19 00:56	1
Bromoform	ND		1.0	0.26	ug/L			03/30/19 00:56	1
Bromomethane	ND		1.0	0.69	ug/L			03/30/19 00:56	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/30/19 00:56	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/30/19 00:56	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/30/19 00:56	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/30/19 00:56	1
Chloroethane	ND		1.0	0.32	ug/L			03/30/19 00:56	1
Chloroform	ND		1.0	0.34	ug/L			03/30/19 00:56	1
Chloromethane	ND		1.0	0.35	ug/L			03/30/19 00:56	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/30/19 00:56	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/30/19 00:56	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/30/19 00:56	1
Dibromomethane	ND		1.0	0.41	ug/L			03/30/19 00:56	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/30/19 00:56	1
Iodomethane	ND		1.0	0.30	ug/L			03/30/19 00:56	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/30/19 00:56	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/30/19 00:56	1
o-Xylene	ND		1.0	0.76	ug/L			03/30/19 00:56	1
Styrene	ND		1.0	0.73	ug/L			03/30/19 00:56	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/30/19 00:56	1
Toluene	ND		1.0	0.51	ug/L			03/30/19 00:56	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/30/19 00:56	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/30/19 00:56	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/30/19 00:56	1
Trichloroethene	ND		1.0	0.46	ug/L			03/30/19 00:56	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/30/19 00:56	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/30/19 00:56	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/30/19 00:56	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/30/19 00:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*03/30/19 00:56*	*1*

Client Sample ID: 5-CLI-004-001-07

Date Collected: 03/27/19 12:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-7

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*03/30/19 00:56*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/30/19 00:56*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/30/19 00:56*	*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		03/28/19 14:14	03/30/19 00:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*23*		*15 - 110*	*03/28/19 14:14*	*03/30/19 00:06*	*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		04/01/19 08:31	04/02/19 19:11	1
Acenaphthylene	ND		0.50	0.34	ug/L		04/01/19 08:31	04/02/19 19:11	1
Anthracene	ND		0.50	0.39	ug/L		04/01/19 08:31	04/02/19 19:11	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		04/01/19 08:31	04/02/19 19:11	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 19:11	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		04/01/19 08:31	04/02/19 19:11	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 19:11	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		04/01/19 08:31	04/02/19 19:11	1
Chrysene	ND		0.50	0.32	ug/L		04/01/19 08:31	04/02/19 19:11	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 19:11	1
Fluoranthene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 19:11	1
Fluorene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 19:11	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		04/01/19 08:31	04/02/19 19:11	1
Naphthalene	**0.90**		0.50	0.42	ug/L		04/01/19 08:31	04/02/19 19:11	1
Phenanthrene	ND		0.50	0.38	ug/L		04/01/19 08:31	04/02/19 19:11	1
Pyrene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*98*		*48 - 120*	*04/01/19 08:31*	*04/02/19 19:11*	*1*
Nitrobenzene-d5	*94*		*46 - 120*	*04/01/19 08:31*	*04/02/19 19:11*	*1*
p-Terphenyl-d14	*53*		*24 - 136*	*04/01/19 08:31*	*04/02/19 19:11*	*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		17	2.4	ng/L		03/29/19 07:00	04/03/19 09:11	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		17	3.8	ng/L		03/29/19 07:00	04/03/19 09:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		03/29/19 07:00	04/03/19 09:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorobutanoic acid (PFBA)	**4.9**		1.7	0.83	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.64	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.49	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79	ng/L		03/29/19 07:00	04/03/19 09:11	1

Client Sample ID: 5-CLI-004-001-07
Date Collected: 03/27/19 12:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.76	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.67	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.63	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.51	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.53	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluoropentanoic acid (PFPeA)	**0.62**	**J**	1.7	0.53	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.77	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.50	ng/L		03/29/19 07:00	04/03/19 09:11	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		03/29/19 07:00	04/03/19 09:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*79*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C2 PFDoA	*71*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C2 PFHxA	*58*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C2 PFUnA	*81*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C2 PFTeDA	*45*	*	*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C3 PFBS	*75*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C4 PFBA	*79*		*25 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C4 PFOA	*75*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C4 PFOS	*65*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C4 PFHpA	*73*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C5 PFNA	*80*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C5 PFPeA	*72*		*25 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
13C8 FOSA	*47*		*25 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
18O2 PFHxS	*77*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
d5-NEtFOSAA	*99*		*50 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
M2-6:2 FTS	*143*		*25 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*
M2-8:2 FTS	*100*		*25 - 150*	*03/29/19 07:00*	*04/03/19 09:11*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.18**	**J**	0.20	0.060	mg/L		03/29/19 08:45	03/29/19 19:14	1
Antimony	ND		0.020	0.0068	mg/L		03/29/19 08:45	03/29/19 19:14	1
Arsenic	ND		0.015	0.0056	mg/L		03/29/19 08:45	03/29/19 19:14	1
Barium	**0.019**		0.0020	0.00070	mg/L		03/29/19 08:45	03/29/19 19:14	1
Beryllium	ND		0.0020	0.00030	mg/L		03/29/19 08:45	03/29/19 19:14	1
Boron	**0.0079**	**J**	0.020	0.0040	mg/L		03/29/19 08:45	03/29/19 19:14	1
Cadmium	ND		0.0020	0.00050	mg/L		03/29/19 08:45	03/29/19 19:14	1
Calcium	**27.5**		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:14	1
Chromium	**0.0013**	**J**	0.0040	0.0010	mg/L		03/29/19 08:45	03/29/19 19:14	1
Cobalt	ND		0.0040	0.00063	mg/L		03/29/19 08:45	03/29/19 19:14	1
Copper	**0.0020**	**J**	0.010	0.0016	mg/L		03/29/19 08:45	03/29/19 19:14	1
Iron	**0.29**		0.050	0.019	mg/L		03/29/19 08:45	03/29/19 19:14	1
Lead	ND		0.010	0.0030	mg/L		03/29/19 08:45	03/29/19 19:14	1
Magnesium	**12.1**		0.20	0.043	mg/L		03/29/19 08:45	03/29/19 19:14	1
Manganese	**0.028**		0.0030	0.00040	mg/L		03/29/19 08:45	03/29/19 19:14	1
Nickel	ND		0.010	0.0013	mg/L		03/29/19 08:45	03/29/19 19:14	1

Client Sample ID: 5-CLI-004-001-07

Lab Sample ID: 480-150961-7

Date Collected: 03/27/19 12:00

Matrix: Water

Date Received: 03/28/19 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**1.9**		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 19:14	1
Selenium	ND		0.025	0.0087	mg/L		03/29/19 08:45	03/29/19 19:14	1
Silver	ND		0.0060	0.0017	mg/L		03/29/19 08:45	03/29/19 19:14	1
Sodium	**5.1**		1.0	0.32	mg/L		03/29/19 08:45	03/29/19 19:14	1
Thallium	ND		0.020	0.010	mg/L		03/29/19 08:45	03/29/19 19:14	1
Vanadium	ND		0.0050	0.0015	mg/L		03/29/19 08:45	03/29/19 19:14	1
Zinc	**0.0024**	**J**	0.010	0.0015	mg/L		03/29/19 08:45	03/29/19 19:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/19 11:17	03/28/19 14:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			04/01/19 12:30	1
Chloride	**10.6**		0.50	0.28	mg/L			04/01/19 12:30	1
Sulfate	**18.5**		2.0	0.35	mg/L			04/01/19 12:30	1
Ammonia	ND		0.020	0.0090	mg/L			04/11/19 10:12	1
Chemical Oxygen Demand	**106**		10.0	5.0	mg/L			04/15/19 12:45	1
Total Organic Carbon	**32.6**		1.0	0.43	mg/L			03/29/19 23:51	1
Alkalinity, Total	**104**		5.0	0.79	mg/L			04/09/19 13:13	1
Total hardness as CaCO3	**120**		4.0	1.1	mg/L			04/23/19 10:15	1
Total Dissolved Solids	**163**		10.0	4.0	mg/L			04/03/19 08:21	1

Client Sample ID: 5-CLI-004-001-08

Lab Sample ID: 480-150961-8

Date Collected: 03/27/19 00:00

Matrix: Water

Date Received: 03/28/19 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			03/30/19 01:19	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/30/19 01:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/30/19 01:19	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/30/19 01:19	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/30/19 01:19	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/30/19 01:19	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/30/19 01:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/30/19 01:19	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/30/19 01:19	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/30/19 01:19	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/30/19 01:19	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/30/19 01:19	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/30/19 01:19	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/30/19 01:19	1
2-Hexanone	ND		5.0	1.2	ug/L			03/30/19 01:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/30/19 01:19	1
Acetone	ND		10	3.0	ug/L			03/30/19 01:19	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/30/19 01:19	1
Benzene	ND		1.0	0.41	ug/L			03/30/19 01:19	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/30/19 01:19	1

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-08
Date Collected: 03/27/19 00:00
Date Received: 03/28/19 01:00

Lab Sample ID: 480-150961-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0	0.26	ug/L			03/30/19 01:19	1
Bromomethane	ND		1.0	0.69	ug/L			03/30/19 01:19	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/30/19 01:19	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/30/19 01:19	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/30/19 01:19	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/30/19 01:19	1
Chloroethane	ND		1.0	0.32	ug/L			03/30/19 01:19	1
Chloroform	ND		1.0	0.34	ug/L			03/30/19 01:19	1
Chloromethane	ND		1.0	0.35	ug/L			03/30/19 01:19	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/30/19 01:19	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/30/19 01:19	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/30/19 01:19	1
Dibromomethane	ND		1.0	0.41	ug/L			03/30/19 01:19	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/30/19 01:19	1
Iodomethane	ND		1.0	0.30	ug/L			03/30/19 01:19	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/30/19 01:19	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/30/19 01:19	1
o-Xylene	ND		1.0	0.76	ug/L			03/30/19 01:19	1
Styrene	ND		1.0	0.73	ug/L			03/30/19 01:19	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/30/19 01:19	1
Toluene	ND		1.0	0.51	ug/L			03/30/19 01:19	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/30/19 01:19	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/30/19 01:19	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/30/19 01:19	1
Trichloroethene	ND		1.0	0.46	ug/L			03/30/19 01:19	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/30/19 01:19	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/30/19 01:19	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/30/19 01:19	1
Xylenes, Total	ND		2.0	0.66	ug/L			03/30/19 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*03/30/19 01:19*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*03/30/19 01:19*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/30/19 01:19*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/30/19 01:19*	*1*

Surrogate Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

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)
480-150961-1	5-CLI-004-001-01	102	99	101	104
480-150961-2	5-CLI-004-001-02	103	99	98	102
480-150961-3	5-CLI-004-001-03	103	98	97	100
480-150961-7	5-CLI-004-001-07	101	100	96	101
480-150961-8	5-CLI-004-001-08	100	97	96	101
LCS 480-465459/5	Lab Control Sample	99	107	100	103
MB 480-465459/7	Method Blank	99	100	99	103

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)
480-150961-1	5-CLI-004-001-01	91	87	59
480-150961-2	5-CLI-004-001-02	96	93	54
480-150961-3	5-CLI-004-001-03	96	90	81
480-150961-7	5-CLI-004-001-07	98	94	53
LCS 480-465604/2-A	Lab Control Sample	92	89	92
MB 480-465604/1-A	Method Blank	93	87	81

Surrogate Legend

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

Isotope Dilution Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

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)
480-150961-1	5-CLI-004-001-01	26
480-150961-2	5-CLI-004-001-02	26
480-150961-3	5-CLI-004-001-03	26
480-150961-7	5-CLI-004-001-07	23
LCS 480-465213/2-A	Lab Control Sample	28
MB 480-465213/1-A	Method Blank	28

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)
480-150961-1	5-CLI-004-001-01	83	78	84	86	74	94	74	81
480-150961-2	5-CLI-004-001-02	84	83	66	85	73	84	52	79
480-150961-3	5-CLI-004-001-03	80	82	88	90	66	97	85	76
480-150961-4	5-CLI-004-001-04	80	63	92	73	63	82	92	81
480-150961-5	5-CLI-004-001-05	74		86			78	73	77
480-150961-5	5-CLI-004-001-05		80		88	69			
480-150961-6	5-CLI-004-001-06	80	71	86	77	71	93	77	79
480-150961-7	5-CLI-004-001-07	79	71	58	81	45 *	75	79	75
LCS 200-141342/2-A	Lab Control Sample	93	76	94	81	74	77	74	89
MB 200-141342/1-A	Method Blank	91	69	92	78	66	72	79	86

		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)
480-150961-1	5-CLI-004-001-01	68	78	84	73	55	82	72	88
480-150961-2	5-CLI-004-001-02	74	75	80	62	48	77	80	95
480-150961-3	5-CLI-004-001-03	71	78	80	86	44	84	73	93
480-150961-4	5-CLI-004-001-04	69	84	85	102	36	69	65	74
480-150961-5	5-CLI-004-001-05	65	78	79	82		88		
480-150961-5	5-CLI-004-001-05					40		81	95
480-150961-6	5-CLI-004-001-06	71	83	82	106	52	77	70	80
480-150961-7	5-CLI-004-001-07	65	73	80	72	47	77	74	99
LCS 200-141342/2-A	Lab Control Sample	72	85	87	119	48	72	77	82
MB 200-141342/1-A	Method Blank	72	84	87	96	40	74	74	77

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
480-150961-1	5-CLI-004-001-01	123	88
480-150961-2	5-CLI-004-001-02	263 *	129
480-150961-3	5-CLI-004-001-03	101	92
480-150961-4	5-CLI-004-001-04	106	77
480-150961-5	5-CLI-004-001-05	112	127
480-150961-5	5-CLI-004-001-05		
480-150961-6	5-CLI-004-001-06	113	76
480-150961-7	5-CLI-004-001-07	143	100

Isotope Dilution Summary

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)								
LCS 200-141342/2-A	Lab Control Sample	110	101								
MB 200-141342/1-A	Method Blank	109	93								

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

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

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

Lab Sample ID: MB 480-465459/7
Matrix: Water
Analysis Batch: 465459

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			03/29/19 22:43	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			03/29/19 22:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			03/29/19 22:43	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			03/29/19 22:43	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			03/29/19 22:43	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			03/29/19 22:43	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			03/29/19 22:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			03/29/19 22:43	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			03/29/19 22:43	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			03/29/19 22:43	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			03/29/19 22:43	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			03/29/19 22:43	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			03/29/19 22:43	1
2-Butanone (MEK)	ND		10	1.3	ug/L			03/29/19 22:43	1
2-Hexanone	ND		5.0	1.2	ug/L			03/29/19 22:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			03/29/19 22:43	1
Acetone	ND		10	3.0	ug/L			03/29/19 22:43	1
Acrylonitrile	ND		5.0	0.83	ug/L			03/29/19 22:43	1
Benzene	ND		1.0	0.41	ug/L			03/29/19 22:43	1
Bromodichloromethane	ND		1.0	0.39	ug/L			03/29/19 22:43	1
Bromoform	ND		1.0	0.26	ug/L			03/29/19 22:43	1
Bromomethane	ND		1.0	0.69	ug/L			03/29/19 22:43	1
Carbon disulfide	ND		1.0	0.19	ug/L			03/29/19 22:43	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			03/29/19 22:43	1
Chlorobenzene	ND		1.0	0.75	ug/L			03/29/19 22:43	1
Chlorobromomethane	ND		1.0	0.87	ug/L			03/29/19 22:43	1
Chloroethane	ND		1.0	0.32	ug/L			03/29/19 22:43	1
Chloroform	ND		1.0	0.34	ug/L			03/29/19 22:43	1
Chloromethane	ND		1.0	0.35	ug/L			03/29/19 22:43	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			03/29/19 22:43	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			03/29/19 22:43	1
Dibromochloromethane	ND		1.0	0.32	ug/L			03/29/19 22:43	1
Dibromomethane	ND		1.0	0.41	ug/L			03/29/19 22:43	1
Ethylbenzene	ND		1.0	0.74	ug/L			03/29/19 22:43	1
Iodomethane	ND		1.0	0.30	ug/L			03/29/19 22:43	1
m,p-Xylene	ND		2.0	0.66	ug/L			03/29/19 22:43	1
Methylene Chloride	ND		1.0	0.44	ug/L			03/29/19 22:43	1
o-Xylene	ND		1.0	0.76	ug/L			03/29/19 22:43	1
Styrene	ND		1.0	0.73	ug/L			03/29/19 22:43	1
Tetrachloroethene	ND		1.0	0.36	ug/L			03/29/19 22:43	1
Toluene	ND		1.0	0.51	ug/L			03/29/19 22:43	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			03/29/19 22:43	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			03/29/19 22:43	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			03/29/19 22:43	1
Trichloroethene	ND		1.0	0.46	ug/L			03/29/19 22:43	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			03/29/19 22:43	1
Vinyl acetate	ND		5.0	0.85	ug/L			03/29/19 22:43	1
Vinyl chloride	ND		1.0	0.90	ug/L			03/29/19 22:43	1

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

Lab Sample ID: MB 480-465459/7
Matrix: Water
Analysis Batch: 465459

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			03/29/19 22:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*03/29/19 22:43*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*03/29/19 22:43*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/29/19 22:43*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*03/29/19 22:43*	*1*

Lab Sample ID: LCS 480-465459/5
Matrix: Water
Analysis Batch: 465459

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	23.1		ug/L		93	80 - 120
1,1,1-Trichloroethane	25.0	23.2		ug/L		93	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.6		ug/L		98	76 - 120
1,1,2-Trichloroethane	25.0	25.5		ug/L		102	76 - 122
1,1-Dichloroethane	25.0	22.3		ug/L		89	77 - 120
1,1-Dichloroethene	25.0	23.6		ug/L		94	66 - 127
1,2,3-Trichloropropane	25.0	24.7		ug/L		99	68 - 122
1,2-Dibromo-3-Chloropropane	25.0	22.7		ug/L		91	56 - 134
1,2-Dibromoethane	25.0	25.4		ug/L		102	77 - 120
1,2-Dichlorobenzene	25.0	24.0		ug/L		96	80 - 124
1,2-Dichloroethane	25.0	22.4		ug/L		90	75 - 120
1,2-Dichloropropane	25.0	25.5		ug/L		102	76 - 120
1,4-Dichlorobenzene	25.0	24.1		ug/L		97	80 - 120
2-Butanone (MEK)	125	131		ug/L		105	57 - 140
2-Hexanone	125	136		ug/L		109	65 - 127
4-Methyl-2-pentanone (MIBK)	125	127		ug/L		102	71 - 125
Acetone	125	118		ug/L		95	56 - 142
Acrylonitrile	250	237		ug/L		95	63 - 125
Benzene	25.0	24.4		ug/L		98	71 - 124
Bromodichloromethane	25.0	24.3		ug/L		97	80 - 122
Bromoform	25.0	21.7		ug/L		87	61 - 132
Bromomethane	25.0	22.0		ug/L		88	55 - 144
Carbon disulfide	25.0	22.0		ug/L		88	59 - 134
Carbon tetrachloride	25.0	23.8		ug/L		95	72 - 134
Chlorobenzene	25.0	24.8		ug/L		99	80 - 120
Chlorobromomethane	25.0	24.2		ug/L		97	72 - 130
Chloroethane	25.0	21.0		ug/L		84	69 - 136
Chloroform	25.0	22.1		ug/L		89	73 - 127
Chloromethane	25.0	21.8		ug/L		87	68 - 124
cis-1,2-Dichloroethene	25.0	22.4		ug/L		90	74 - 124
cis-1,3-Dichloropropene	25.0	25.4		ug/L		102	74 - 124
Dibromochloromethane	25.0	24.4		ug/L		97	75 - 125
Dibromomethane	25.0	24.0		ug/L		96	76 - 127
Ethylbenzene	25.0	24.2		ug/L		97	77 - 123
Iodomethane	25.0	23.3		ug/L		93	78 - 123

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

Lab Sample ID: LCS 480-465459/5
Matrix: Water
Analysis Batch: 465459

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	23.9		ug/L		96	76 - 122
Methylene Chloride	25.0	23.8		ug/L		95	75 - 124
o-Xylene	25.0	23.3		ug/L		93	76 - 122
Styrene	25.0	25.0		ug/L		100	80 - 120
Tetrachloroethene	25.0	24.8		ug/L		99	74 - 122
Toluene	25.0	24.7		ug/L		99	80 - 122
trans-1,2-Dichloroethene	25.0	22.5		ug/L		90	73 - 127
trans-1,3-Dichloropropene	25.0	25.9		ug/L		103	80 - 120
trans-1,4-Dichloro-2-butene	25.0	16.9		ug/L		68	41 - 131
Trichloroethene	25.0	24.5		ug/L		98	74 - 123
Trichlorofluoromethane	25.0	23.9		ug/L		96	62 - 150
Vinyl acetate	50.0	49.4		ug/L		99	50 - 144
Vinyl chloride	25.0	22.5		ug/L		90	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*103*		*80 - 120*

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

Lab Sample ID: MB 480-465213/1-A
Matrix: Water
Analysis Batch: 465428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 465213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		03/28/19 14:14	03/29/19 19:42	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*28*		*15 - 110*	*03/28/19 14:14*	*03/29/19 19:42*	*1*

Lab Sample ID: LCS 480-465213/2-A
Matrix: Water
Analysis Batch: 465428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 465213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.00	1.08		ug/L		108	40 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*28*		*15 - 110*

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

Lab Sample ID: MB 480-465604/1-A
Matrix: Water
Analysis Batch: 465861

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 465604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.50	0.30	ug/L		04/01/19 08:31	04/02/19 15:22	1
Acenaphthylene	ND		0.50	0.34	ug/L		04/01/19 08:31	04/02/19 15:22	1
Anthracene	ND		0.50	0.39	ug/L		04/01/19 08:31	04/02/19 15:22	1
Benzo[a]anthracene	ND		0.50	0.40	ug/L		04/01/19 08:31	04/02/19 15:22	1
Benzo[a]pyrene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 15:22	1
Benzo[b]fluoranthene	ND		0.50	0.30	ug/L		04/01/19 08:31	04/02/19 15:22	1
Benzo[g,h,i]perylene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 15:22	1
Benzo[k]fluoranthene	ND		0.50	0.085	ug/L		04/01/19 08:31	04/02/19 15:22	1
Chrysene	ND		0.50	0.32	ug/L		04/01/19 08:31	04/02/19 15:22	1
Dibenz(a,h)anthracene	ND		0.50	0.33	ug/L		04/01/19 08:31	04/02/19 15:22	1
Fluoranthene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 15:22	1
Fluorene	ND		0.50	0.37	ug/L		04/01/19 08:31	04/02/19 15:22	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.44	ug/L		04/01/19 08:31	04/02/19 15:22	1
Naphthalene	ND		0.50	0.42	ug/L		04/01/19 08:31	04/02/19 15:22	1
Phenanthrene	ND		0.50	0.38	ug/L		04/01/19 08:31	04/02/19 15:22	1
Pyrene	ND		0.50	0.36	ug/L		04/01/19 08:31	04/02/19 15:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*48 - 120*	*04/01/19 08:31*	*04/02/19 15:22*	*1*
Nitrobenzene-d5	*87*		*46 - 120*	*04/01/19 08:31*	*04/02/19 15:22*	*1*
p-Terphenyl-d14	*81*		*24 - 136*	*04/01/19 08:31*	*04/02/19 15:22*	*1*

Lab Sample ID: LCS 480-465604/2-A
Matrix: Water
Analysis Batch: 465861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 465604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	32.0	29.6		ug/L		93	60 - 120
Acenaphthylene	32.0	30.1		ug/L		94	63 - 120
Anthracene	32.0	30.6		ug/L		96	69 - 131
Benzo[a]anthracene	32.0	29.9		ug/L		93	62 - 142
Benzo[a]pyrene	32.0	31.1		ug/L		97	46 - 156
Benzo[b]fluoranthene	32.0	31.5		ug/L		99	50 - 149
Benzo[g,h,i]perylene	32.0	30.8		ug/L		96	34 - 189
Benzo[k]fluoranthene	32.0	31.1		ug/L		97	47 - 147
Chrysene	32.0	32.4		ug/L		101	69 - 140
Dibenz(a,h)anthracene	32.0	32.4		ug/L		101	35 - 176
Fluoranthene	32.0	31.2		ug/L		98	67 - 133
Fluorene	32.0	30.8		ug/L		96	66 - 129
Indeno[1,2,3-cd]pyrene	32.0	31.7		ug/L		99	57 - 161
Naphthalene	32.0	27.5		ug/L		86	48 - 120
Phenanthrene	32.0	30.4		ug/L		95	67 - 130
Pyrene	32.0	33.1		ug/L		103	58 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*48 - 120*
Nitrobenzene-d5	*89*		*46 - 120*
p-Terphenyl-d14	*92*		*24 - 136*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-141342/1-A
Matrix: Water
Analysis Batch: 141524

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141342

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		03/29/19 07:00	04/03/19 02:50	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		20	4.6	ng/L		03/29/19 07:00	04/03/19 02:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5	ng/L		03/29/19 07:00	04/03/19 02:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.49	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorobutanoic acid (PFBA)	ND		2.0	1.0	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.77	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.64	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.61	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.63	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60	ng/L		03/29/19 07:00	04/03/19 02:50	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53	ng/L		03/29/19 07:00	04/03/19 02:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*91*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C2 PFDoA	*69*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C2 PFHxA	*92*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C2 PFUnA	*78*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C2 PFTeDA	*66*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C3 PFBS	*72*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C4 PFBA	*79*		*25 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C4 PFOA	*86*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C4 PFOS	*72*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C4 PFHpA	*84*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C5 PFNA	*87*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C5 PFPeA	*96*		*25 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
13C8 FOSA	*40*		*25 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
18O2 PFHxS	*74*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
d5-NEtFOSAA	*77*		*50 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*
M2-8:2 FTS	*93*		*25 - 150*	*03/29/19 07:00*	*04/03/19 02:50*	*1*

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

Lab Sample ID: LCS 200-141342/2-A
Matrix: Water
Analysis Batch: 141524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141342

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	36.8		ng/L		96	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	40.0		ng/L		106	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	36.6		ng/L		91	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	36.9		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	34.6		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	40.0	34.9		ng/L		87	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	32.8		ng/L		85	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	37.3		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	38.5		ng/L		96	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.2		ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	37.4		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.0		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	40.0	38.3		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.6		ng/L		102	70 - 130
Perfluorooctanesulfonamide (PFOSA)	40.0	36.7		ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	35.7		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	38.2		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	24.9		ng/L		62	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	37.6		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	35.2		ng/L		88	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	39.5		ng/L		99	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*93*		*50 - 150*
13C2 PFDoA	*76*		*50 - 150*
13C2 PFHxA	*94*		*50 - 150*
13C2 PFUnA	*81*		*50 - 150*
13C2 PFTeDA	*74*		*50 - 150*
13C3 PFBS	*77*		*50 - 150*
13C4 PFBA	*74*		*25 - 150*
13C4 PFOA	*89*		*50 - 150*
13C4 PFOS	*72*		*50 - 150*
13C4 PFHpA	*85*		*50 - 150*
13C5 PFNA	*87*		*50 - 150*
13C5 PFPeA	*119*		*25 - 150*
13C8 FOSA	*48*		*25 - 150*
18O2 PFHxS	*72*		*50 - 150*
d3-NMeFOSAA	*77*		*50 - 150*

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

Lab Sample ID: LCS 200-141342/2-A
Matrix: Water
Analysis Batch: 141524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141342

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	82		50 - 150
M2-6:2 FTS	110		25 - 150
M2-8:2 FTS	101		25 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-465263/1-A
Matrix: Water
Analysis Batch: 465667

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 465263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		03/29/19 08:45	03/29/19 17:03	1
Antimony	ND		0.020	0.0068	mg/L		03/29/19 08:45	03/29/19 17:03	1
Arsenic	ND		0.015	0.0056	mg/L		03/29/19 08:45	03/29/19 17:03	1
Barium	ND		0.0020	0.00070	mg/L		03/29/19 08:45	03/29/19 17:03	1
Beryllium	ND		0.0020	0.00030	mg/L		03/29/19 08:45	03/29/19 17:03	1
Boron	ND		0.020	0.0040	mg/L		03/29/19 08:45	03/29/19 17:03	1
Cadmium	ND		0.0020	0.00050	mg/L		03/29/19 08:45	03/29/19 17:03	1
Calcium	ND		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 17:03	1
Chromium	ND		0.0040	0.0010	mg/L		03/29/19 08:45	03/29/19 17:03	1
Cobalt	ND		0.0040	0.00063	mg/L		03/29/19 08:45	03/29/19 17:03	1
Copper	ND		0.010	0.0016	mg/L		03/29/19 08:45	03/29/19 17:03	1
Iron	ND		0.050	0.019	mg/L		03/29/19 08:45	03/29/19 17:03	1
Lead	ND		0.010	0.0030	mg/L		03/29/19 08:45	03/29/19 17:03	1
Magnesium	ND		0.20	0.043	mg/L		03/29/19 08:45	03/29/19 17:03	1
Manganese	ND		0.0030	0.00040	mg/L		03/29/19 08:45	03/29/19 17:03	1
Nickel	ND		0.010	0.0013	mg/L		03/29/19 08:45	03/29/19 17:03	1
Potassium	ND		0.50	0.10	mg/L		03/29/19 08:45	03/29/19 17:03	1
Selenium	ND		0.025	0.0087	mg/L		03/29/19 08:45	03/29/19 17:03	1
Silver	ND		0.0060	0.0017	mg/L		03/29/19 08:45	03/29/19 17:03	1
Sodium	ND		1.0	0.32	mg/L		03/29/19 08:45	03/29/19 17:03	1
Thallium	ND		0.020	0.010	mg/L		03/29/19 08:45	03/29/19 17:03	1
Vanadium	ND		0.0050	0.0015	mg/L		03/29/19 08:45	03/29/19 17:03	1
Zinc	ND		0.010	0.0015	mg/L		03/29/19 08:45	03/29/19 17:03	1

Lab Sample ID: LCS 480-465263/2-A
Matrix: Water
Analysis Batch: 465667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 465263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	9.12		mg/L		91	80 - 120
Antimony	0.200	0.187		mg/L		94	80 - 120
Arsenic	0.200	0.201		mg/L		101	80 - 120
Barium	0.200	0.188		mg/L		94	80 - 120
Beryllium	0.200	0.195		mg/L		97	80 - 120
Boron	0.200	0.191		mg/L		95	80 - 120
Cadmium	0.200	0.186		mg/L		93	80 - 120
Calcium	10.0	9.30		mg/L		93	80 - 120
Chromium	0.200	0.189		mg/L		95	80 - 120

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

Lab Sample ID: LCS 480-465263/2-A
Matrix: Water
Analysis Batch: 465667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 465263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.200	0.182		mg/L		91	80 - 120
Copper	0.200	0.189		mg/L		95	80 - 120
Iron	10.0	9.35		mg/L		93	80 - 120
Lead	0.200	0.185		mg/L		92	80 - 120
Magnesium	10.0	9.47		mg/L		95	80 - 120
Manganese	0.200	0.186		mg/L		93	80 - 120
Nickel	0.200	0.193		mg/L		97	80 - 120
Potassium	10.0	8.90		mg/L		89	80 - 120
Selenium	0.200	0.194		mg/L		97	80 - 120
Silver	0.0500	0.0481		mg/L		96	80 - 120
Sodium	10.0	8.95		mg/L		89	80 - 120
Thallium	0.200	0.195		mg/L		97	80 - 120
Vanadium	0.200	0.190		mg/L		95	80 - 120
Zinc	0.200	0.188		mg/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-465148/1-A
Matrix: Water
Analysis Batch: 465241

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 465148

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/28/19 11:17	03/28/19 14:31	1

Lab Sample ID: LCS 480-465148/2-A
Matrix: Water
Analysis Batch: 465241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 465148

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00710		mg/L		106	80 - 120

Lab Sample ID: 480-150961-7 MS
Matrix: Water
Analysis Batch: 465241

Client Sample ID: 5-CLI-004-001-07
Prep Type: Total/NA
Prep Batch: 465148

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00697		mg/L		104	80 - 120

Lab Sample ID: 480-150961-7 MSD
Matrix: Water
Analysis Batch: 465241

Client Sample ID: 5-CLI-004-001-07
Prep Type: Total/NA
Prep Batch: 465148

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00713		mg/L		107	80 - 120	2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-465609/28
Matrix: Water
Analysis Batch: 465609

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			04/01/19 17:23	1
Chloride	ND		0.50	0.28	mg/L			04/01/19 17:23	1
Sulfate	0.589	J	2.0	0.35	mg/L			04/01/19 17:23	1

Lab Sample ID: MB 480-465609/4
Matrix: Water
Analysis Batch: 465609

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			04/01/19 11:32	1
Chloride	ND		0.50	0.28	mg/L			04/01/19 11:32	1
Sulfate	ND		2.0	0.35	mg/L			04/01/19 11:32	1

Lab Sample ID: LCS 480-465609/27
Matrix: Water
Analysis Batch: 465609

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	5.15		mg/L		103	90 - 110
Chloride	50.0	49.35		mg/L		99	90 - 110
Sulfate	50.0	50.95		mg/L		102	90 - 110

Lab Sample ID: LCS 480-465609/3
Matrix: Water
Analysis Batch: 465609

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	4.88		mg/L		98	90 - 110
Chloride	50.0	46.93		mg/L		94	90 - 110
Sulfate	50.0	47.85		mg/L		96	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-467451/27
Matrix: Water
Analysis Batch: 467451

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			04/11/19 09:55	1

Lab Sample ID: MB 480-467451/3
Matrix: Water
Analysis Batch: 467451

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			04/11/19 09:34	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-467451/28
Matrix: Water
Analysis Batch: 467451

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	0.930		mg/L		93	90 - 110

Lab Sample ID: LCS 480-467451/4
Matrix: Water
Analysis Batch: 467451

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	0.932		mg/L		93	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-467570/27
Matrix: Water
Analysis Batch: 467570

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			04/11/19 19:00	1

Lab Sample ID: MB 480-467570/3
Matrix: Water
Analysis Batch: 467570

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			04/11/19 19:00	1

Lab Sample ID: LCS 480-467570/28
Matrix: Water
Analysis Batch: 467570

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	23.14		mg/L		93	90 - 110

Lab Sample ID: LCS 480-467570/4
Matrix: Water
Analysis Batch: 467570

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	23.80		mg/L		95	90 - 110

Lab Sample ID: MB 480-467964/123
Matrix: Water
Analysis Batch: 467964

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			04/15/19 12:45	1

Method: 410.4 - COD (Continued)

Lab Sample ID: MB 480-467964/99
Matrix: Water
Analysis Batch: 467964

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			04/15/19 12:45	1

Lab Sample ID: LCS 480-467964/100
Matrix: Water
Analysis Batch: 467964

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	26.44		mg/L		106	90 - 110

Lab Sample ID: LCS 480-467964/124
Matrix: Water
Analysis Batch: 467964

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	24.79		mg/L		99	90 - 110

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

Lab Sample ID: MB 480-465500/51
Matrix: Water
Analysis Batch: 465500

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			03/29/19 19:37	1

Lab Sample ID: LCS 480-465500/52
Matrix: Water
Analysis Batch: 465500

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	60.15		mg/L		100	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-467135/4
Matrix: Water
Analysis Batch: 467135

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			04/09/19 11:58	1

Lab Sample ID: LCS 480-467135/5
Matrix: Water
Analysis Batch: 467135

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	94.16		mg/L		94	90 - 110

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

Lab Sample ID: MB 480-469371/27
Matrix: Water
Analysis Batch: 469371

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			04/23/19 10:15	1

Lab Sample ID: MB 480-469371/3
Matrix: Water
Analysis Batch: 469371

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			04/23/19 10:15	1

Lab Sample ID: LCS 480-469371/28
Matrix: Water
Analysis Batch: 469371

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	271	248.0		mg/L		92	90 - 110

Lab Sample ID: LCS 480-469371/4
Matrix: Water
Analysis Batch: 469371

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	271	272.0		mg/L		100	90 - 110

Lab Sample ID: 480-150961-1 MS
Matrix: Water
Analysis Batch: 469371

Client Sample ID: 5-CLI-004-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	112		200	316.0		mg/L		102	74 - 130

Lab Sample ID: 480-150961-2 DU
Matrix: Water
Analysis Batch: 469371

Client Sample ID: 5-CLI-004-001-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total hardness as CaCO3	272		280.0		mg/L		3	15

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

Lab Sample ID: MB 480-465751/1
Matrix: Water
Analysis Batch: 465751

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	ND		10.0	4.0	mg/L			04/02/19 06:06	1

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

Lab Sample ID: LCS 480-465751/2
Matrix: Water
Analysis Batch: 465751

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			500	500.0		mg/L		100	85 - 115		

Lab Sample ID: MB 480-465993/1
Matrix: Water
Analysis Batch: 465993

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	ND		10.0	4.0	mg/L			04/03/19 08:21	1

Lab Sample ID: LCS 480-465993/2
Matrix: Water
Analysis Batch: 465993

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			500	486.0		mg/L		97	85 - 115		

GC/MS VOA

Analysis Batch: 465459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	8260C	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	8260C	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	8260C	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	8260C	
480-150961-8	5-CLI-004-001-08	Total/NA	Water	8260C	
MB 480-465459/7	Method Blank	Total/NA	Water	8260C	
LCS 480-465459/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 465213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	3510C	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	3510C	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	3510C	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	3510C	
MB 480-465213/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-465213/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 465428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	8270D SIM ID	465213
480-150961-2	5-CLI-004-001-02	Total/NA	Water	8270D SIM ID	465213
480-150961-3	5-CLI-004-001-03	Total/NA	Water	8270D SIM ID	465213
480-150961-7	5-CLI-004-001-07	Total/NA	Water	8270D SIM ID	465213
MB 480-465213/1-A	Method Blank	Total/NA	Water	8270D SIM ID	465213
LCS 480-465213/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	465213

Prep Batch: 465604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	3510C	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	3510C	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	3510C	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	3510C	
MB 480-465604/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-465604/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 465861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	8270D_LL_PAH	465604
480-150961-2	5-CLI-004-001-02	Total/NA	Water	8270D_LL_PAH	465604
480-150961-3	5-CLI-004-001-03	Total/NA	Water	8270D_LL_PAH	465604
480-150961-7	5-CLI-004-001-07	Total/NA	Water	8270D_LL_PAH	465604
MB 480-465604/1-A	Method Blank	Total/NA	Water	8270D_LL_PAH	465604
LCS 480-465604/2-A	Lab Control Sample	Total/NA	Water	8270D_LL_PAH	465604

LCMS

Prep Batch: 141342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	3535	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	3535	

LCMS (Continued)

Prep Batch: 141342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-3	5-CLI-004-001-03	Total/NA	Water	3535	
480-150961-4	5-CLI-004-001-04	Total/NA	Water	3535	
480-150961-5	5-CLI-004-001-05	Total/NA	Water	3535	
480-150961-6	5-CLI-004-001-06	Total/NA	Water	3535	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	3535	
MB 200-141342/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-141342/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 141524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	537 (modified)	141342
480-150961-2	5-CLI-004-001-02	Total/NA	Water	537 (modified)	141342
480-150961-3	5-CLI-004-001-03	Total/NA	Water	537 (modified)	141342
480-150961-4	5-CLI-004-001-04	Total/NA	Water	537 (modified)	141342
480-150961-5	5-CLI-004-001-05	Total/NA	Water	537 (modified)	141342
480-150961-6	5-CLI-004-001-06	Total/NA	Water	537 (modified)	141342
480-150961-7	5-CLI-004-001-07	Total/NA	Water	537 (modified)	141342
MB 200-141342/1-A	Method Blank	Total/NA	Water	537 (modified)	141342
LCS 200-141342/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	141342

Analysis Batch: 141579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-5	5-CLI-004-001-05	Total/NA	Water	537 (modified)	141342

Metals

Prep Batch: 465148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	7470A	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	7470A	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	7470A	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	7470A	
MB 480-465148/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-465148/2-A	Lab Control Sample	Total/NA	Water	7470A	
480-150961-7 MS	5-CLI-004-001-07	Total/NA	Water	7470A	
480-150961-7 MSD	5-CLI-004-001-07	Total/NA	Water	7470A	

Analysis Batch: 465241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	7470A	465148
480-150961-2	5-CLI-004-001-02	Total/NA	Water	7470A	465148
480-150961-3	5-CLI-004-001-03	Total/NA	Water	7470A	465148
480-150961-7	5-CLI-004-001-07	Total/NA	Water	7470A	465148
MB 480-465148/1-A	Method Blank	Total/NA	Water	7470A	465148
LCS 480-465148/2-A	Lab Control Sample	Total/NA	Water	7470A	465148
480-150961-7 MS	5-CLI-004-001-07	Total/NA	Water	7470A	465148
480-150961-7 MSD	5-CLI-004-001-07	Total/NA	Water	7470A	465148

Prep Batch: 465263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	3005A	

Metals (Continued)

Prep Batch: 465263 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-2	5-CLI-004-001-02	Total/NA	Water	3005A	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	3005A	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	3005A	
MB 480-465263/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-465263/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 465667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	6010C	465263
480-150961-2	5-CLI-004-001-02	Total/NA	Water	6010C	465263
480-150961-3	5-CLI-004-001-03	Total/NA	Water	6010C	465263
480-150961-7	5-CLI-004-001-07	Total/NA	Water	6010C	465263
MB 480-465263/1-A	Method Blank	Total/NA	Water	6010C	465263
LCS 480-465263/2-A	Lab Control Sample	Total/NA	Water	6010C	465263

General Chemistry

Analysis Batch: 465500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	9060A	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	9060A	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	9060A	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	9060A	
MB 480-465500/51	Method Blank	Total/NA	Water	9060A	
LCS 480-465500/52	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 465609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	300.0	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	300.0	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	300.0	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	300.0	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	300.0	
MB 480-465609/28	Method Blank	Total/NA	Water	300.0	
MB 480-465609/4	Method Blank	Total/NA	Water	300.0	
LCS 480-465609/27	Lab Control Sample	Total/NA	Water	300.0	
LCS 480-465609/3	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 465751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	SM 2540C	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	SM 2540C	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	SM 2540C	
MB 480-465751/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-465751/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 465993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-7	5-CLI-004-001-07	Total/NA	Water	SM 2540C	
MB 480-465993/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-465993/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 467135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	SM 2320B	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	SM 2320B	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	SM 2320B	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	SM 2320B	
MB 480-467135/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-467135/5	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 467451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	350.1	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	350.1	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	350.1	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	350.1	
MB 480-467451/27	Method Blank	Total/NA	Water	350.1	
MB 480-467451/3	Method Blank	Total/NA	Water	350.1	
LCS 480-467451/28	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-467451/4	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 467570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	410.4	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	410.4	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	410.4	
MB 480-467570/27	Method Blank	Total/NA	Water	410.4	
MB 480-467570/3	Method Blank	Total/NA	Water	410.4	
LCS 480-467570/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-467570/4	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 467964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-7	5-CLI-004-001-07	Total/NA	Water	410.4	
MB 480-467964/123	Method Blank	Total/NA	Water	410.4	
MB 480-467964/99	Method Blank	Total/NA	Water	410.4	
LCS 480-467964/100	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-467964/124	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 469371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-150961-1	5-CLI-004-001-01	Total/NA	Water	SM 2340C	
480-150961-2	5-CLI-004-001-02	Total/NA	Water	SM 2340C	
480-150961-3	5-CLI-004-001-03	Total/NA	Water	SM 2340C	
480-150961-7	5-CLI-004-001-07	Total/NA	Water	SM 2340C	
MB 480-469371/27	Method Blank	Total/NA	Water	SM 2340C	
MB 480-469371/3	Method Blank	Total/NA	Water	SM 2340C	
LCS 480-469371/28	Lab Control Sample	Total/NA	Water	SM 2340C	
LCS 480-469371/4	Lab Control Sample	Total/NA	Water	SM 2340C	
480-150961-1 MS	5-CLI-004-001-01	Total/NA	Water	SM 2340C	
480-150961-2 DU	5-CLI-004-001-02	Total/NA	Water	SM 2340C	

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-01

Lab Sample ID: 480-150961-1

Date Collected: 03/26/19 10:40

Matrix: Water

Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	465459	03/29/19 23:46	AMM	TAL BUF
Total/NA	Prep	3510C			465213	03/28/19 14:14	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	465428	03/29/19 22:55	DMR	TAL BUF
Total/NA	Prep	3510C			465604	04/01/19 08:31	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	465861	04/02/19 17:46	PJQ	TAL BUF
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 07:36	JM1	TAL BUR
Total/NA	Prep	3005A			465263	03/29/19 08:45	KMP	TAL BUF
Total/NA	Analysis	6010C		1	465667	03/29/19 19:02	EMB	TAL BUF
Total/NA	Prep	7470A			465148	03/28/19 11:17	BMB	TAL BUF
Total/NA	Analysis	7470A		1	465241	03/28/19 14:33	BMB	TAL BUF
Total/NA	Analysis	300.0		1	465609	04/01/19 11:46	EMD	TAL BUF
Total/NA	Analysis	350.1		1	467451	04/11/19 10:09	CLT	TAL BUF
Total/NA	Analysis	410.4		1	467570	04/11/19 19:00	JMC	TAL BUF
Total/NA	Analysis	9060A		1	465500	03/29/19 22:26	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	467135	04/09/19 12:39	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	469371	04/23/19 10:15	AJL	TAL BUF
Total/NA	Analysis	SM 2540C		1	465751	04/02/19 06:06	MLS	TAL BUF

Client Sample ID: 5-CLI-004-001-02

Lab Sample ID: 480-150961-2

Date Collected: 03/26/19 14:00

Matrix: Water

Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	465459	03/30/19 00:09	AMM	TAL BUF
Total/NA	Prep	3510C			465213	03/28/19 14:14	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	465428	03/29/19 23:19	DMR	TAL BUF
Total/NA	Prep	3510C			465604	04/01/19 08:31	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	465861	04/02/19 18:14	PJQ	TAL BUF
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 07:52	JM1	TAL BUR
Total/NA	Prep	3005A			465263	03/29/19 08:45	KMP	TAL BUF
Total/NA	Analysis	6010C		1	465667	03/29/19 19:06	EMB	TAL BUF
Total/NA	Prep	7470A			465148	03/28/19 11:17	BMB	TAL BUF
Total/NA	Analysis	7470A		1	465241	03/28/19 14:35	BMB	TAL BUF
Total/NA	Analysis	300.0		1	465609	04/01/19 12:01	EMD	TAL BUF
Total/NA	Analysis	300.0		2	465609	04/01/19 17:52	EMD	TAL BUF
Total/NA	Analysis	350.1		1	467451	04/11/19 10:10	CLT	TAL BUF
Total/NA	Analysis	410.4		1	467570	04/11/19 19:00	JMC	TAL BUF
Total/NA	Analysis	9060A		1	465500	03/29/19 22:55	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	467135	04/09/19 12:46	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	469371	04/23/19 10:15	AJL	TAL BUF
Total/NA	Analysis	SM 2540C		1	465751	04/02/19 06:06	MLS	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-03

Lab Sample ID: 480-150961-3
Matrix: Water
Date Collected: 03/26/19 11:30
Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	465459	03/30/19 00:33	AMM	TAL BUF
Total/NA	Prep	3510C			465213	03/28/19 14:14	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	465428	03/29/19 23:42	DMR	TAL BUF
Total/NA	Prep	3510C			465604	04/01/19 08:31	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	465861	04/02/19 18:43	PJQ	TAL BUF
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 08:08	JM1	TAL BUR
Total/NA	Prep	3005A			465263	03/29/19 08:45	KMP	TAL BUF
Total/NA	Analysis	6010C		1	465667	03/29/19 19:10	EMB	TAL BUF
Total/NA	Prep	7470A			465148	03/28/19 11:17	BMB	TAL BUF
Total/NA	Analysis	7470A		1	465241	03/28/19 14:36	BMB	TAL BUF
Total/NA	Analysis	300.0		1	465609	04/01/19 12:15	EMD	TAL BUF
Total/NA	Analysis	350.1		1	467451	04/11/19 10:11	CLT	TAL BUF
Total/NA	Analysis	410.4		1	467570	04/11/19 19:00	JMC	TAL BUF
Total/NA	Analysis	9060A		1	465500	03/29/19 23:23	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	467135	04/09/19 12:52	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	469371	04/23/19 10:15	AJL	TAL BUF
Total/NA	Analysis	SM 2540C		1	465751	04/02/19 06:06	MLS	TAL BUF

Client Sample ID: 5-CLI-004-001-04

Lab Sample ID: 480-150961-4
Matrix: Water
Date Collected: 03/26/19 11:40
Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 08:24	JM1	TAL BUR

Client Sample ID: 5-CLI-004-001-05

Lab Sample ID: 480-150961-5
Matrix: Water
Date Collected: 03/27/19 07:50
Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 08:40	JM1	TAL BUR
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	141579	04/03/19 14:11	JM1	TAL BUR

Client Sample ID: 5-CLI-004-001-06

Lab Sample ID: 480-150961-6
Matrix: Water
Date Collected: 03/27/19 07:45
Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 08:55	JM1	TAL BUR

Lab Chronicle

Client: O'Brien & Gere Engineers, Inc.
Project/Site: Sand Road, Region 5

Job ID: 480-150961-1

Client Sample ID: 5-CLI-004-001-07

Lab Sample ID: 480-150961-7

Date Collected: 03/27/19 12:00
Matrix: Water
Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	465459	03/30/19 00:56	AMM	TAL BUF
Total/NA	Prep	3510C			465213	03/28/19 14:14	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	465428	03/30/19 00:06	DMR	TAL BUF
Total/NA	Prep	3510C			465604	04/01/19 08:31	JMP	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	465861	04/02/19 19:11	PJQ	TAL BUF
Total/NA	Prep	3535			141342	03/29/19 07:00	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	141524	04/03/19 09:11	JM1	TAL BUR
Total/NA	Prep	3005A			465263	03/29/19 08:45	KMP	TAL BUF
Total/NA	Analysis	6010C		1	465667	03/29/19 19:14	EMB	TAL BUF
Total/NA	Prep	7470A			465148	03/28/19 11:17	BMB	TAL BUF
Total/NA	Analysis	7470A		1	465241	03/28/19 14:40	BMB	TAL BUF
Total/NA	Analysis	300.0		1	465609	04/01/19 12:30	EMD	TAL BUF
Total/NA	Analysis	350.1		1	467451	04/11/19 10:12	CLT	TAL BUF
Total/NA	Analysis	410.4		1	467964	04/15/19 12:45	MDL	TAL BUF
Total/NA	Analysis	9060A		1	465500	03/29/19 23:51	CLA	TAL BUF
Total/NA	Analysis	SM 2320B		1	467135	04/09/19 13:13	KEB	TAL BUF
Total/NA	Analysis	SM 2340C		1	469371	04/23/19 10:15	AJL	TAL BUF
Total/NA	Analysis	SM 2540C		1	465993	04/03/19 08:21	RAF	TAL BUF

Client Sample ID: 5-CLI-004-001-08

Lab Sample ID: 480-150961-8

Date Collected: 03/27/19 00:00
Matrix: Water
Date Received: 03/28/19 01:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	465459	03/30/19 01:19	AMM	TAL BUF

Laboratory References:

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

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

Accreditation/Certification Summary

Client: O'Brien & Gere Engineers, Inc.
Job ID: 480-150961-1
Project/Site: Sand Road, Region 5

Laboratory: Eurofins 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	03-31-20

Laboratory: Eurofins 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	04-01-20
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: Sand Road, Region 5

Job ID: 480-150961-1

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

TAL BUR = Eurofins 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: Sand Road, Region 5

Job ID: 480-150961-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-150961-1	5-CLI-004-001-01	Water	03/26/19 10:40	03/28/19 01:00
480-150961-2	5-CLI-004-001-02	Water	03/26/19 14:00	03/28/19 01:00
480-150961-3	5-CLI-004-001-03	Water	03/26/19 11:30	03/28/19 01:00
480-150961-4	5-CLI-004-001-04	Water	03/26/19 11:40	03/28/19 01:00
480-150961-5	5-CLI-004-001-05	Water	03/27/19 07:50	03/28/19 01:00
480-150961-6	5-CLI-004-001-06	Water	03/27/19 07:45	03/28/19 01:00
480-150961-7	5-CLI-004-001-07	Water	03/27/19 12:00	03/28/19 01:00
480-150961-8	5-CLI-004-001-08	Water	03/27/19 00:00	03/28/19 01:00

480 19864

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information	
Lab Name: TestAmerica Laboratories, Inc.	Company: OBG	COC #: 5-CLI-004-001
Attention: Melissa Deyo	Attention: Scott Tucker	Project Name: ILI - Region 5
Address: 118 Boss Rd, Syracuse, NY 13211	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Sand Road LF
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

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):

	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 (Ammonia 350.1)	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	~~Ammonia 350.1/SM20~~
Preservative code													0	1	0	2	3	1	0	0	3
#Bottles													2	3	4	2	1	2	4	1	1
1	5-CLI-004-MW-3	93.5	95.0	5-CLI-004-001-01	3/26/19	1040	-	WG	N	17			X	X	X	X	X	X	X	X	
2	5-CLI-004-MW-2	95	105.0	5-CLI-004-001-02	3/26/19	1400	-	WG	N	17			X	X	X	X	X	X	X	X	
3	5-CLI-004-FIELDQC	-	-	5-CLI-004-001-03	3/26/19	1130	-	WQ	EB	17			X	X	X	X	X	X	X	X	
4	5-CLI-004-FIELDQC	-	-	5-CLI-004-001-04	3/26/19	1140	-	WQ	FB	2			X								
5	5-CLI-004-FIELDQC	-	-	5-CLI-004-001-05	3/27/19	750	-	WQ	EB	2			X								
6	5-CLI-004-FIELDQC	-	-	5-CLI-004-001-06	3/27/19	745	-	WQ	FB	2			X								
7	5-CLI-004-MW-1	90.0	100.0	5-CLI-004-001-07	3/27/19	1200	-	WG	N	17			X	X	X	X	X	X	X	X	
8	5-CLI-004-FIELDQC	-	-	5-CLI-004-001-08	3/27/19	-	-	WQ	TB	1				X							
9	— RE																				
10	— RE																				

Special Instructions:

480-150961 Chain of Custody

Syracuse #225

FROM SYR: PFCs → BVT, BAL → BUF. -RE TA PROJECT 48019864

Samplers Name: Maria Bianchetti	Company: OBG	Relinquished By:	Company: TA Syr	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 3/27/19 17:15		Date/Time: 3-27-19 17:15	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Sara Hahn	Shipment Tracking No:	Accepted By:	Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 3-27-19 1900		Date/Time: 03/28/19 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):

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3.0 #1

CHAIN-OF-CUSTODY / Analytical Request Document

COC #: S-CLI-004-001

Project Name: ILI - Region5

Project Site: Sand Road LF

Project Number: 450619

Section A Laboratory Information

Lab Name: TestAmerica Laboratories, Inc.

Attention: Melissa Deyo

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.Bsln Met/Hard-6010/7470/SM20 2340C	Ammonia 350.1/SM20 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	S-CLI-004-MW-3	85	95.0	S-CLI-004-001-01	3/26/19	1040	-	WG	N	17			X	X	X	X	X	X	X	X	
2	S-CLI-004-MW-2	95	105.0	S-CLI-004-001-02	3/26/19	1400	-	WG	N	17			X	X	X	X	X	X	X	X	
3	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-03	3/26/19	1130	-	WQ	EB	17			X	X	X	X	X	X	X	X	
4	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-04	3/26/19	1140	-	WQ	FB	2			X								
5	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-05	3/27/19	750	-	WQ	EB	2			X								
6	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-06	3/27/19	745	-	WQ	FB	2			X								
7	S-CLI-004-MW-1	99.0	109.0	S-CLI-004-001-07	3/27/19	1200	-	WG	N	17			X	X	X	X	X	X	X	X	
8	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-08	3/27/19	-	-	WQ	TB	1				X							
9		- RE																			
10		- RE																			

480-150961 Chain of Custody

Syracuse #225

Special Instructions:

FROM SYR: PFC -> BVT; BAL -> BUF. -RE TA PROJECT 480198644

Samplers Name: Maria Bianchetti	Company: OBG	Relinquished By: RCLA RETIGLISH	Company: TA Syr	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
Shipment Method: Sand Hahn	Date/Time: 3/27/19 17:45	Date/Time: 3-27-19, 17:45	Company: TA Buf	Rec'd on Ice: Yes ☐ No ☐	Samples Intact : Yes ☐ No ☐
	Shipment Tracking No: FEDEX 3-27-19 RETIGLISH 1900	Accepted By:	Date/Time: 3/28/19 10:25	Cooler Temp.: 0.9	Custody Seals Intact: Yes ☐ No ☐
				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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ORIGIN ID:SYRA (315) 431-0171
SYR SERVICE CENTER
TESTAMERICA
118 BOSS RD

SYRACUSE, NY 13211
UNITED STATES US

SHIP DATE: 27MAR19
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 SAND RD 1COOLER

551C1/46D3/104C

FedEx
Express

E

J181118060501uv

THU - 28 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4651 0843 6346

05403

NC BTVA

VT-US BTV

CHAIN-OF-CUSTODY / Analytical Request Document

COC #: S-CLI-004-001

Section A Laboratory Information	Section B Client Information	
Lab Name: TestAmerica Laboratories, Inc.	Company: OBG	Project Name: ILI - Region 5
Attention: Melissa Deyo	Attention: Scott Tucker	Project Site: Sand Road LF
Address: 118 Boss Rd, Syracuse, NY 13211	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Number: 450619
Phone: (315) 431-0171	Phone: 315-956-6345	
Email: Melissa.Deyo@testamericainc.com	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 = None; 1 = HCL; 2 = HNO3; 3 = H2SO4; 4 = NaOH; 5 = Zn Acetate; 6 = MeOH; 7 = NaHSO4; 8 = Other (H3PO4)

	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 3340C	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	S-CLI-004-MW-3	85	95.0	S-CLI-004-001-01	3/26/19	1040	-	WG	N	17			X	X	X	X	X	X	X	X					
2	S-CLI-004-MW-2	95	105.0	S-CLI-004-001-02	3/26/19	1400	-	WG	N	17			X	X	X	X	X	X	X	X					
3	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-03	3/26/19	1130	-	WQ	EB	17			X	X	X	X	X	X	X	X					
4	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-04	3/26/19	1140	-	WQ	FB	2			X												
5	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-05	3/27/19	750	-	WQ	EB	2			X												
6	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-06	3/27/19	745	-	WQ	FB	2			X												
7	S-CLI-004-MW-1	99.0	109.0	S-CLI-004-001-07	3/27/19	1200	-	WG	N	17			X	X	X	X	X	X	X	X					
8	S-CLI-004-FIELDQC	-	-	S-CLI-004-001-08	3/27/19	-	-	WQ	TB	1				X											
9		Ref																							
10		Ref																							

Special Instructions:

Samplers Name: Maria Bianchetti	Company: OBG	Relinquished By: Sara Nahm	Company: TA Syr.	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
Shipment Method: Sara Nahm	Date/Time: 3/27/19 17:15	Accepted By: R.Eaglin	Date/Time: 3-27-19, 17:15	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
	Shipment Tracking No:		Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time:		Date/Time:	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐

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Login Sample Receipt Checklist

Client: O'Brien & Gere Engineers, Inc.

Job Number: 480-150961-1

Login Number: 150961
List Number: 1
Creator: Velickovic, Zoran

List Source: Eurofins 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: 480-150961-1

Login Number: 150961
List Number: 2
Creator: McNabb, Robert W

List Source: Eurofins TestAmerica, Burlington
List Creation: 03/28/19 11:40 AM

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	0.8ºC
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
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	