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

Landfill Name: **Clinton County Landfill**

Region: **5**

SWID: **10S20**

Date of Field Activities: **5/24/18 – 6/1/18**

Summary of Field Activities

The field activities were conducted according to the Hydrogeologic Investigation at the Clinton County Landfill Site NYSDEC Region 5 – Clinton County Morrisonville, New York Work Plan with the following deviations: Eight existing monitoring wells were developed prior to sampling and one monitoring well was not sampled due to low water volume in the well. As shown in Figure 1, a total of nine existing monitoring wells were sampled.

Monitoring Wells Installed

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

Monitoring Wells Sampled

Monitoring Well ID	Date	Sample Collected (yes/no)	Comments
P-108	5/29/2018	Yes	5-CLI-002-001-01
MW-212	5/30/2018	Yes	5-CLI-002-002-01
MW-216	5/30/2018	Yes	5-CLI-002-002-02
MW-213	5/31/2018	Yes	5-CLI-002-003-01
P-217	5/31/2018	No	No sample collected. Low volume well.
P-221	5/31/2018	Yes	5-CLI-002-003-02
MW-E	6/1/2018	Yes	5-CLI-002-004-01
MW-C2	6/1/2018	Yes	5-CLI-002-004-02
P-101	6/1/2018	Yes	5-CLI-002-004-03
MW-220	6/1/2018	Yes	5-CLI-002-004-04

Other Samples

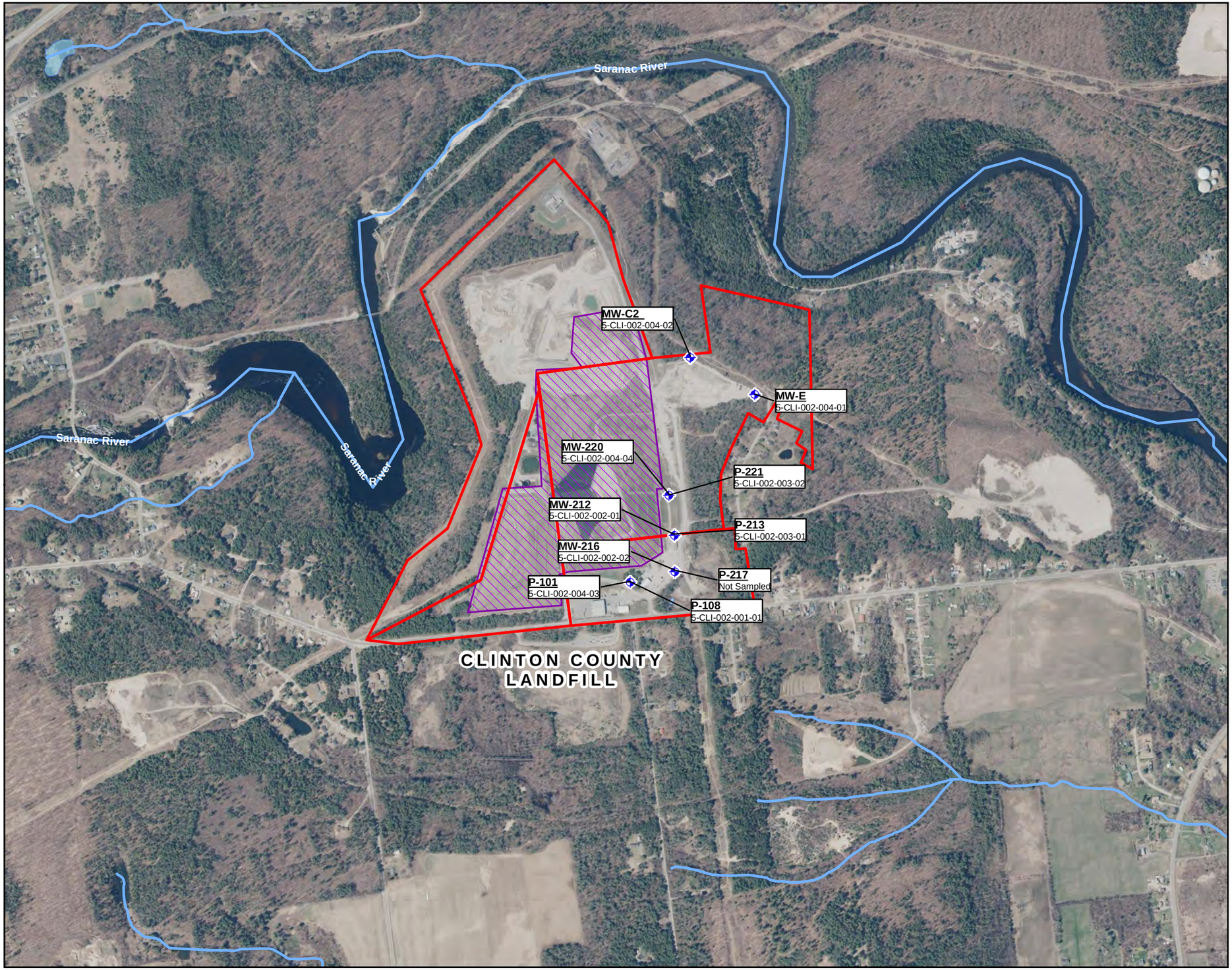
Sample Location	Sample Type	Date	Comments
N/A	N/A	N/A	

Figures

Figure 1	Sample Locations
Figure 2	Groundwater Contours and Flow

Attachments

Attachment 1	Clinton County Landfill Work Plan
Attachment 2	Boring and Well Construction Logs
Attachment 3	Sampling Logs
Attachment 4	Analytical Laboratory Level II Data Deliverable



N

LEGEND

- MONITORING WELL
- WATER FEATURE AND FLOW
- WATER FEATURE
- ESTIMATED LANDFILL EXTENT
- PARCEL BOUNDARY

NOTE:
PARCEL GEOREFERENCED FROM CLINTON COUNTY GIS

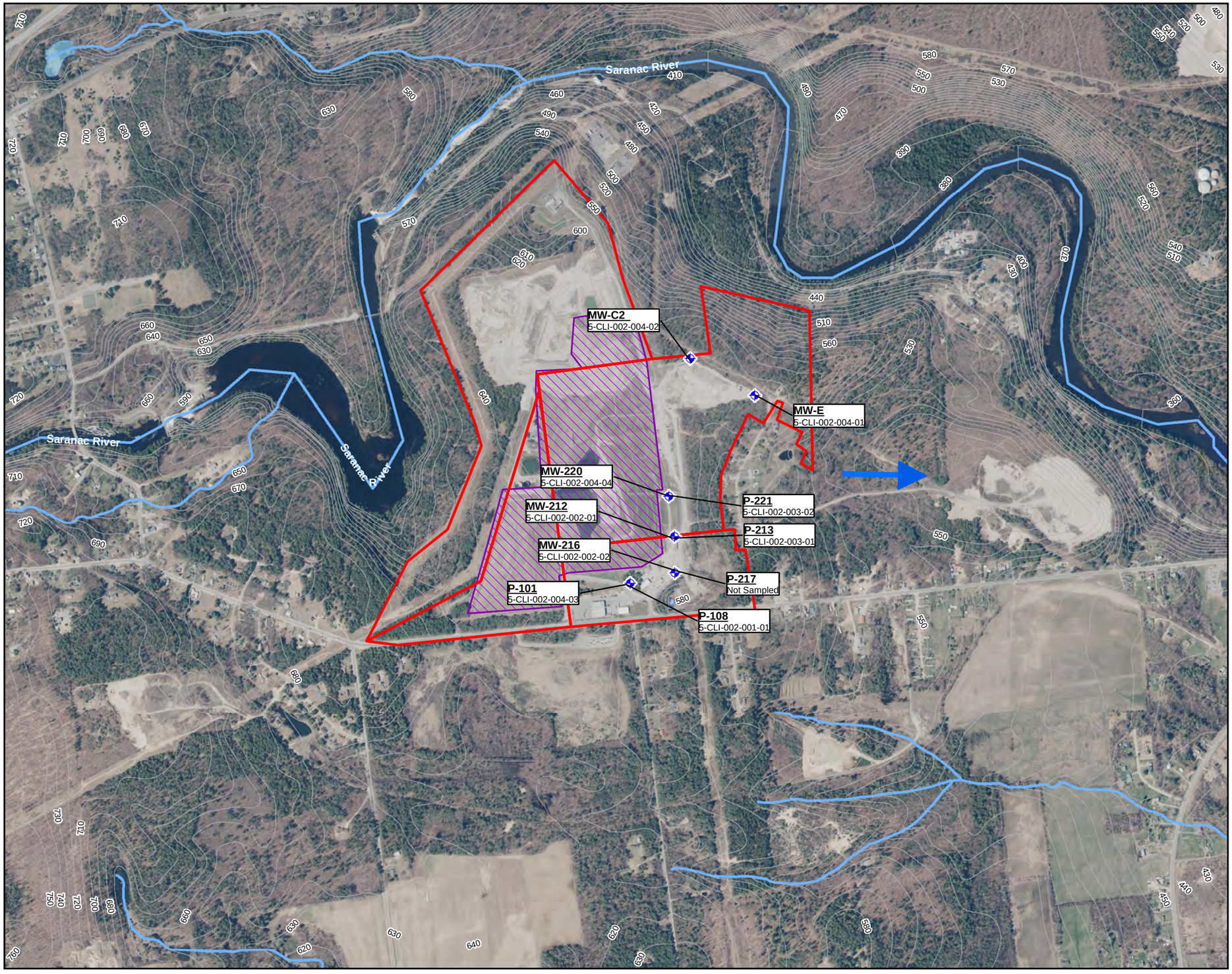
NEW YORK STATE
DEPARTMENT OF CONSERVATION
CLINTON COUNTY LANDFILL
MORRISONVILLE, NEW YORK

SAMPLE LOCATIONS

0 500 1,000 2,000
Feet

8653.65982
JUNE 2019

O'BRIEN & GERE ENGINEERS, INC.



N

LEGEND

- MONITORING WELL
- TOPOGRAPHIC CONTOURS
- WATER FEATURE AND FLOW
- WATER FEATURE
- ESTIMATED LANDFILL EXTENT
- PARCEL BOUNDARY
- PRESUMED GROUNDWATER FLOW

NOTE:
-PARCEL GEOREFERENCED FROM CLINTON COUNTY GIS
-CONTOURS PROVIDED BY USGS - 2016

NEW YORK STATE
DEPARTMENT OF CONSERVATION
CLINTON COUNTY LANDFILL
MORRISONVILLE, NEW YORK

GROUNDWATER CONTOURS AND FLOW

0 500 1,000 2,000
Feet

8653.65982
JUNE 2019

O'BRIEN & GERE ENGINEERS, INC.

Attachment 1

Clinton County Landfill Work Plan

Site-Specific Work Plan for:

HYDROGEOLOGIC INVESTIGATION
AT THE
CLINTON COUNTY LANDFILL
NYSDEC REGION 5 - CLINTON COUNTY
MORRISONVILLE, NEW YORK

Prepared For:

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7012

Prepared By:

OBG
333 W. Washington St.
Syracuse, New York 13202
Phone: (315) 956-6100
Fax: (315) 463-7554

March 2018

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Site Specific Work Plan For Hydrogeologic Investigation At The Clinton County Landfill Site

1.0 PROJECT BACKGROUND

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

2.0 PROJECT OBJECTIVES

The objective of this hydrogeological investigation is to provide an initial assessment of the potential for impacts to groundwater and surface water in the immediate vicinity of the Clinton County Landfill as a result of a reported elevated per- and polyfluoroalkyl substances (PFAS) detection in a supply well that services a small residential community on Charles Way approximately 0.5 miles southeast of the landfill Site. This objective will be accomplished by sampling ten groundwater monitoring wells and analyzing the samples for a suite of target organic and inorganic contaminants. The sample data will be evaluated to assess whether groundwater quality has been impacted by the landfill operations.

3.0 SITE SETTING

The landfill is accessed by travelling west out of Plattsburgh on New York Staet Route 3 and Route 22B for approximately 6 miles and veering right onto New York State Route 31 (Sand Road) for 1.3 miles before arriving at the landfill on the north side of Sand Road.

The landfill is located adjacent to the Saranac River and historical nearby regional operations (Figure 1) include:

- A recently identified closed landfill (future reference as Sand Road Landfill) appximately 0.5 miles east of the current landfill Site that operated until sale of land in the mid- to late-1970's
- A potential junk yard operation southeast of the current landfill Site based on a 1969 aerial photograph
- Former septage langoons southeast of the current landfill Site.

According to NYSDEC, the Clinton County Landfill consists of an original unlined inactive pre-6NYCRR Part 360 (Part 360) landfill, that is the focus of this investigation and referred to herin as Schuyler Falls Landfill. Several Part 360 landfill cells (Phase I, II, III, V [Phase IV was never permitted or constructed]) were constructed adjacent as outlined below and presented in Figure 1:

- Phase I cell (inactive) constructed southwest of the of the Schuyler Falls Landfill
- Phase II cell (inactive) constructed south of Phase I cell
- Phase III cell (active) constructed directly south of the of the Schuyler Falls Landfill
- Phase V (active) constructed directly north of the of the Schuyler Falls Landfill

According to a Water Quality Monitoring Report for 2017 Fourth Quarter by Barton& Loguidice dated December 2017, the Schuyler Falls Landfill was a municipal landfill that operated from 1977 to 1997. The landfill reportedly received commercial, residential and municipal solid waste from a variety of sources. The materials were disposed over an approximate 31 acre area that was subsequently capped.

Public water service was installed to service residences on Newell Court, Vassar Road, Fatima Street and Sand Road as far east as Newell Court.

3.1 GROUNDWATER AND SURFACE WATER OCCURRENCE AND FLOW

The Schuyler Falls Landfill is located adjacent to the Saranac River approximately two miles west of the Hamlet of Morrisonville, Clinton County, New York. The landfill is located in general bend of the easterly flowing Saranac River with the river present near the western, northern and eastern sides of the landfill. Based on boring logs and Site investigations, there are four water bearing units. From top to bottom (Figure 2) 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.

The Deltaic Unit ranges up to approximately 50 feet in thickness with a saturated interval approaching 30 feet in places, but more commonly less than 15 feet and consists of a poorly graded, fine-grained sand with an average hydraulic conductivity around $1X10^{-3}$ cm/sec. The unit thins and is truncated to the north and east by erosion, and likely to the south. Groundwater flow is to the east, with a minor radial component to the north. Groundwater discharges from the Deltaic Unit as springs where the underlying till is exposed at the surface, observed northeast of the landfill and directly south (Figure 1).

The Outwash Unit thickness and texture are highly variable. Where it is present, it ranges from a thin (~ 1 foot) sand unit up to relatively thick (approaching 30 feet) gravel channel fillings. Hydraulic conductivity is similarly variable. The unit is unsaturated at some locations, with up to 15 feet of saturation at other locations. Groundwater flow is generally to the east and southeast, but varies since it is controlled to a significant degree by the topography of the underlying till surface. The till between the deltaic and outwash units is relatively impermeable (on the order of $5X10^{-6}$ cm/sec), however, the Outwash Unit has been impacted by the landfill immediately east of the Schuyler Falls Landfill footprint where the till unit is relatively thin.

The upper portion of the Till/Ice Contact Complex is a relatively homogeneous, sandy till with a hydraulic conductivity ranging from 10^{-4} to 10^{-5} cm/sec. The lower portion of the Till/Ice Contact Complex is a mix of ice contact deposits (kame, flow tills, etc.), some of which are quite permeable. The thickness of the overall unit ranges from less than 20 feet near the western portion of the landfill site, to greater than 100 feet along the eastern edge where the bedrock surface drops off. Although there appear to be some isolated pockets of perched water within the upper portion of the Till/Ice Contact Complex, it is continuously saturated beginning at a depth of approximately 140 feet below ground surface along the eastern edge of the landfill Site. Groundwater flow (Figure 3) is generally to the east, although there is a component to the north (towards the Saranac River) where an impacted spring was identified in 2009 along Kent Falls Road (Figure 1). Three residential wells, near the discharge location, are sampled annually in conjunction with the Clinton County Health Department and these wells have not shown any indications of contamination.

The Potsdam Sandstone is present as surface outcrops along the Saranac River to the west and north of the landfill site. The bedrock surface declines significantly to the east of the landfill, and is greater than 200 feet deep in the vicinity of Newell Court. Groundwater flow is generally to the east, and is influenced by head levels in the Kent Falls reservoir (a dammed portion of the Saranac River) immediately west of the landfill. Artesian flow is common in bedrock residential wells along Kent Falls Road. Landfill contamination has never been identified in bedrock wells.

3.2 HISTORICAL REMEDIAL ACTIONS

Several remedial actions have been implemented at the site including:

- Installation and operation of four remedial extraction wells; three east of the Schuyler Falls Landfill, one within the Schuyler Falls Landfill
- Installation of a subsurafce barrier wall along southern and eastern boundary Shuyler Falls Landfill
- Installation and operation of a groundwater interceptor tench northeast of the landfill Site
- Remove/replace soil and installation of clay wall in Phase III landfill

4.0 HYDROGEOLOGICAL INVESTIGATION AND SCOPE OF WORK

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

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

4.1 GROUNDWATER SAMPLING

As noted in Section 2.0 above, elevated PFAS was reported in a drinking water well that services a small residential community approximately 0.5 miles southeast of the landfill Site. It is reported that the drinking water well is screened from 75 to 90 ft below grade (475 to 460 ft elevation). This correlates with the Potsdam Sandstone immediately beneath the landfill Site. As discussed in Section 3.1, The bedrock surface declines significantly to the east of the landfill where the drinking water well is located. Based on review of a regional well survey, it was confirmed that the drinking water well servicing the nearby residential community is screened in overburden, likely the Lower Till Unit that is present adjacent to the landfill Site.

As such, several existing monitoring wells that roughly correlate with or bound the reported community drinking water well screen interval in the Potsdam Sandstone beneath the landfill and the Lower Till Unit adjacent to the landfill Site are proposed for sampling to evaluate potential connection (Figure 3). Additionally, two wells east of the current landfill Site will be sampled due to their location relative to nearby residences east of the current landfill Site. These wells include:

<u>Bedrock Wells</u>:

- South of current landfills Site
  - MW-108, MW-216,
- Southeast of current landfill Site
  - MW-212, MW-220

<u>Lower Till Unit Wells</u>:

- South of current landfill Site
  - P-101, P-217,
- Southeast of current landfill Site
  - P-213, P-221,
- East of current landfill Site
  - MW-C2 (in heart of plume)
  - MW-E

Samples will be collected from each specified well location and analyzed as described in the FAP. The wells will be purged prior to sampling, and all sampling equipment will be dedicated to that sampling location, or will be decontaminated between sampling locations using the methods provided in the FAP.

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

5.0 INVESTIGATION REPORTING

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

TABLE 1 – ANALYTICAL PARAMETERS

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

TABLE 1 – ANALYTICAL PARAMETERS
(Continued)

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

TABLE 1 – ANALYTICAL PARAMETERS
(Continued)

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

N

LEGEND

WATER FEATURE AND

CLINTON COUNTY LANDFILL APPROXIMATE BOUNDARIES

NEW YORK STATE
DEPARTMENT OF CONSERVATION
CLINTON COUNTY LANDFILL
MORRISONVILLE, NEW YORK

HISTORIC ACTIVITY

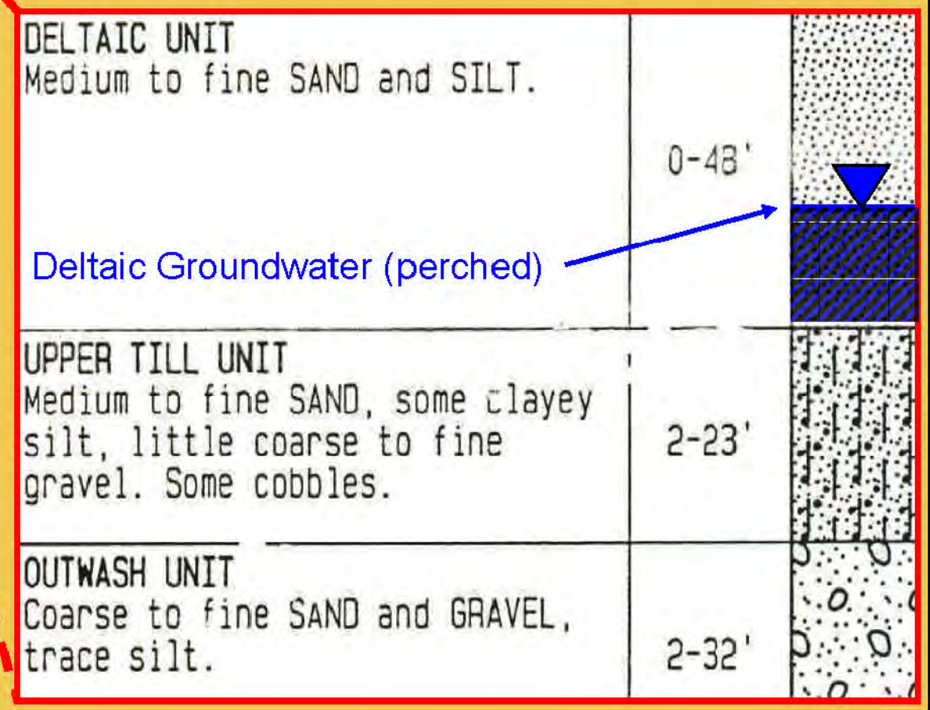
0 500 1,000 2,000
Feet

8653.65982
MARCH 2018

O'BRIEN & GERE ENGINEERS, INC.

Site Stratigraphy

BARTON & LOGUIDICE (1993)	THICK.	LITH. LOG
DELTAIC UNIT Medium to fine SAND and SILT.	0-48'	
UPPER TILL UNIT Medium to fine SAND, some clayey silt, little coarse to fine gravel. Some cobbles.	2-23'	
OUTWASH UNIT Coarse to fine SAND and GRAVEL, trace silt.	2-32'	
MIDDLE TILL UNIT Medium to fine SAND, some silt and coarse to fine gravel. Some cobbles. Occasional sand layers. Occasional silt and clay layers.	6-32'	
Silt and clay layer.	1-7'	
COBBLY TILL UNIT Medium to fine SAND, some silt. Frequent cobbles and sandy till layers. Occasional boulders.	0-31'	
LOWER TILL UNIT Fine SAND, some silt. Frequent layers of fine SAND, SILT, and CLAY. Occasional cobbles.	0-34'	
POTSDAM FORMATION Medium to fine grained SANDSTONE.		



NEW YORK STATE
DEPARTMENT OF CONSERVATION
CLINTON COUNTY LANDFILL
MORRISONVILLE, NEW YORK

SITE STRATIGRAPHY

8653.65982
MARCH 2018

O'BRIEN & GERE ENGINEERS, INC.

N

LEGEND

- APPROXIMATE LOCATION
- WATER FEATURE AND FLOW
- PRESUMED GROUNDWATER FLOW

NEW YORK STATE
DEPARTMENT OF CONSERVATION
CLINTON COUNTY LANDFILL
MORRISONVILLE, NEW YORK

SITE PLAN

0 500 1,000 2,000
Feet

8653.65982
MARCH 2018

O'BRIEN & GERE ENGINEERS, INC.

Attachment 2

Boring and Well Construction Logs

SUBSURFACE INVESTIGATION LOG

Boring No. MW-C2

B&L Project N 244.104

Project:	Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation			**Boring Location Description:**			
Project Location:	Sand Road, Schuyler Falls, NY						
Drill Rig:	ATV Mounted CME 850	**Start Date:**	7/19/2010	**Northing:**	1712802.82	NYSP NAD27	
Casing:	4-inch	**Finish Date:**	7/28/2010	**Easting:**	692412.93	NYSP NAD27	
Soil Sampler:	2' Split Spoon	**Contractor:**	Atlantic Testing Laboratories	**GS Elevation:**	600.22	AMSL	
Sample Hammer:	**Weight:** 140 lbs **Fall:** 30 in.	**Driller:**	Brad Perry	**TOC Elevation:**	603.08	PVC Rim	
Other:	ODEX Casing Adv System	**B&L Geologist:**	Bryce Dingman, Robin VerSchneider	**Total Depth:**	154.65	From PVC Rim	

Depth (ft)	Sample Number	Blows	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
0					Ground Surface			4" Steel Protective Casing with Lock 2-inch Dia. Permanent Monitoring Well
					3" Topsoil, Roots, Leaves		Soil Descriptions from 0'-108' based on previously completed boring MW-C with Boart Longyear (April 2010) ATL drills to target sampling depth starting on 7/19/10 Soil sampling for MW-C2 starts at 108' on 7/22/10	
					Brown f-m SAND, loose, non-cohesive			
					Brown medium to coarse SAND, loose, moist, non-cohesive	SW		Cement-bentonite grout 2" PVC riser 5" temporary double casing to 60'.
5								
	1			11'				
10					Tan fine SAND some Silt, loose, non-cohesive, moist to wet	SM		
15			DELTAIC UNIT		Color change to Grey with increase Silt, firm, wet			
					Brown to Grey fine SAND, little medium Sand, loose, wet, non-cohesive	SW		
20					Grey Silt, firm, wet, non-cohesive	ML		
					Grey SILT with intermittent layers of Brown Silt, little Clay, wet, slightly plastic	ML		
25					Grey fine to medium SAND, loose, wet, non-cohesive Leachate-petroleum odor observed	SW		
	2			20'				
30					Brown SILT, little fine Gravel (subrounded), trace Clay, dense.	ML		
35			UPPER TILL UNIT		Grey SILT, some Clay, little fine Gravel (subrounded, Sandstone?).	ML		
	3			20'	Grey SILT, some Clay and fine to medium Gravel (sandstone and quartz, subrounded), trace Cobbles throughout (3"-5"), slightly plastic, moist to wet	GM		
40								

SUBSURFACE INVESTIGATION LOG

Boring No. MW-C2

B&L Project N 244.104

Project:	Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation	**Boring Location Description:**	
Project Location:	Sand Road, Schuyler Falls, NY		
Drill Rig:	ATV Mounted CME 850	**Start Date:**	7/19/2010
Casing:	4-inch	**Finish Date:**	7/28/2010
Soil Sampler:	2' Split Spoon	**Contractor:**	Atlantic Testing Laboratories
Sample Hammer:	**Weight:** 140 lbs **Fall:** 30 in.	**Driller:**	Brad Perry
Other:	ODEX Casing Adv System	**B&L Geologist:**	Bryce Dingman, Robin VerSchneider

Northing:	1712802.82	NYSP NAD27
Easting:	692412.93	NYSP NAD27
GS Elevation:	600.22	AMSL
TOC Elevation:	603.08	PVC Rim
Total Depth:	154.65	From PVC Rim

Depth (ft)	Sample Number	Blows	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
45	3 Cont		UPPER TILL UNIT	20'	Grey SILT, some Clay and fine to medium Gravel (sandstone and quartz, subrounded), trace Cobbles throughout (3"-5"), slightly plastic, moist to wet	GM		
50								
			OUTWASH UNIT		0.4' lyr Reddish Brown c SAND and little m Gravel (subrounded),			
55					Reddish Brown fine SAND some cmf Gravel (subrounded), little Silt from 52.4'-53.0', non-cohesive, dry Slight leachate odor	SW		
60			LOWER TILL UNIT					Cement-bentonite grout 2" PVC riser
65	4			3' Lost most of sample down-hole				
70					Reddish Brown fine to medium SAND, fine to medium Gravel (subrounded), moist, non-plastic, hard	SW		
					Grey fine to medium SAND, some coarse SAND and fine to medium Gravel (subrounded), Cobbles, 2"-3", hard, wet	SW		
75	5			4'	Boulder			
80					Grey fine to medium SAND, some coarse Sand and fine to medium Gravel (subrounded), Cobbles, 2"-3", hard, wet, non-plastic	SW		
	6			15'	Reddish Brown fine to medium SAND, some fine to medium Gravel, loose, saturated, Possible odor observed, no PID detection	SW		
85					Brown fine to medium SAND, loose	SW		

SUBSURFACE INVESTIGATION LOG

Boring No. MW-C2

B&L Project N 244.104

Project:	Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation			**Boring Location Description:**	
Project Location:	Sand Road, Schuyler Falls, NY				
Drill Rig:	ATV Mounted CME 850	**Start Date:**	7/19/2010	**Northing:**	1712802.82 NYSP NAD27
Casing:	4-inch	**Finish Date:**	7/28/2010	**Easting:**	692412.93 NYSP NAD27
Soil Sampler:	2' Split Spoon	**Contractor:**	Atlantic Testing Laboratories	**GS Elevation:**	600.22 AMSL
Sample Hammer:	**Weight:** 140 lbs **Fall:** 30 in.	**Driller:**	Brad Perry	**TOC Elevation:**	603.08 PVC Rim
Other:	ODEX Casing Adv System	**B&L Geologist:**	Bryce Dingman, Robin VerSchneider	**Total Depth:**	154.65 From PVC Rim

Depth (ft)	Sample Number	Blows	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
	6 Cont			15'	Brown fine to medium SAND, loose	SW		
					Brown fine to medium SAND, loose, saturated	SW		
90					Boulder			
					Brown fine SAND, little fine to medium Gravel, loose, moist, no odor	SW		
95								Cement-bentonite grout
					Brown medium to fine SAND, loose, wet	SW		2" PVC riser
100					Grey medium to fine SAND, loose, saturated, non-stratified	SW		
	7			11' 3' slough	Grey to Brown fine to medium SAND, loose, moist, trace fine Gravel (subrounded), no odor	SW	Driller encountered refusal, no recovery, assumed Bedrock	
105								
	S-1	8-32-57-50/0.4'	LOWER TILL UNIT	1.8'	Brown/Tan fine to medium uniform SAND, cross-bedding throughout, becomes mostly fine Sand at bottom of spoon, firm, moist Slight leachate (?) odor	SP	7/19/10-7/20/10 ATL installs 5" secondary spin casing to 60' bgs	
110					*Drilling advancement became more difficult, coarse material observed in cuttings* *No measurable water in borehole*	SW-SM	7/21/10 ATL installs ODEX-driven 4" casing to 100', shut down due to weather	
	S-2	30-34-54-50/0.3'		1.5	4" of Brown fine to coarse SAND, some fine Gravel, fractured Sandstone fragments, wet, loose grades to Brown fine SAND AND SILT, moist to wet, firm at 114' Brown medium to coarse SAND, loose, dry		7/22/10 ATL starts sampling at 108', no water in hole prior to sampling	
115							ATL lost hammer and 40' of rod down-hole, were able to recover but then the casing shoe was found broken off, therefore ATL cannot advance. End of drilling 7/22/10	
	S-3 (7/22/10)	27-44-65/0.2'		1.4'	3" of Brown medium to coarse SAND, wet, loose, grades to Brown medium SAND, little coarse Sand, well rounded, moist at ~119' Tan fine SAND, loose, dry, uniform	SW	ATL pulls all casing to replace lead casing/shoe, End of drilling on 7/23/10	
120							7/26/10 - Compressor failure, no drilling progress	
	S-4 (7/27/10)	68-84-50/2"		1.2'	6" of Tan fine SAND, little Silt, moist, firm, grades to Tan/Brown fine to medium SAND, loose, dry at 124' Brown-Olive SILT and fine SAND, dense, moist	SM	7/27/10-Rig down, 2nd rig mob'd to site	
125					*Dark Brown, Reddish tint, fine to medium SAND, dry*	SW		
					Brown medium SAND, some fine to medium Gravel (subrounded)	SW	7/27/10-ODEX issues, ATL cannot retrieve hammer through casing	
130								

SUBSURFACE INVESTIGATION LOG

Boring No. MW-C2

B&L Project N 244.104

Project: Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation

Project Location: Sand Road, Schuyler Falls, NY

Boring Location Description:

Drill Rig:	ATV Mounted CME 850	**Start Date:**	7/19/2010	**Northing:**	1712802.82	NYSP NAD27
Casing:	4-inch	**Finish Date:**	7/28/2010	**Easting:**	692412.93	NYSP NAD27
Soil Sampler:	2' Split Spoon	**Contractor:**	Atlantic Testing Laboratories	**GS Elevation:**	600.22	AMSL
Sample Hammer:	**Weight:** 140 lbs **Fall:** 30 in.	**Driller:**	Brad Perry	**TOC Elevation:**	603.08	PVC Rim
Other:	ODEX Casing Adv System	**B&L Geologist:**	Bryce Dingman, Robin VerSchneider	**Total Depth:**	154.65	From PVC Rim

Depth (ft)	Sample Number	Blows	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
								Cement-bentonite grout
								2" PVC riser
135	S-5	41-91-50/2"		0.8'	3" Fractured Sandstone fragments, moist to wet grades to Brown/Tan medium to coarse SAND, some fine Gravel (subrounded), moist, loose	SW		
								136.5' - Top of #00 choker sand pack
								137' - Top of bentonite seal
140	S-6	13-41-74-100		2.0'	2" Light Brown SILT, soft, saturated, grades to Light Brown SILT, dense, non-plastic, moist-wet at ~139' fine Tan SAND, moist, firm	ML		
								140.1' - Top of #00 choker sand pack
								140.5' - Top of filter sand pack
145	S-7	25-48-55-50/5"	LOWER TILL UNIT	1.9'	Tan/Brown fine to medium SAND, trace fine Gravel (subrounded), loose, sat, 1" Brown SILT seam at ~144', then Tan fm SAND, saturated At ~144.5' Brown to Orange SAND (oxidized appearance), no odor, saturated, loose	SW-ML		143' - Top of screen
					At ~145', drilling advancement became more difficult, broke through possible cobble zone from 145'-146.5', cuttings are mostly wet silt and clay (reddish Brown), slightly plastic			
								#0 Filter sand pack
150	S-8	21-45-50-46		N=95	Brown medium SAND, trace fine to medium Gravel (subrounded), saturated, loose grades at ~149.5' to Lt Brown-Tan fine SAND, trace fine Gravel (subrounded), saturated	SP		2-in dia. PVC 10-ft length Johnson screen
					ODEX advanced to 153',WL is ~146.6' from top of casing, sand has heaved up to 150'.			
155							End of drilling for day 7/28/10 7/28/10 am - WL in casing is 146'3" from TOC	153 - Bottom of screen
160							ATL set well on 7/28/10	
165								
170								
175								

SUBSURFACE INVESTIGATION LOG

Boring No. MW-E

B&L Project N 244.104

Project:	Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation			**Boring Location Description:**			
Project Location:	Sand Road, Schuyler Falls, NY						
Drill Rig:	Compact Roto-Sonic 17-C	**Start Date:**	4/5/2011	**Northing:**	1712426.00	NYSP NAD27	
Casing:	4-inch, 7-inch	**Finish Date:**	4/12/2011	**Easting:**	693041.54	NYSP NAD27	
Soil Sampler:	5 foot soil sampler	**Contractor:**	Aquifer Drilling and Testing, Inc.	**GS Elevation:**		AMSL	
Sample Hammer:	**Weight:** N/A **Fall:** N/A	**Driller:**	Chris Stratton	**TOC Elevation:**	600.76	PVC Rim	
Other:	Roto Sonic	**B&L Geologist:**	Bryce Dingman	**Total Depth:**	178.70	From PVC Rim	

Depth (ft)	Sample Number	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
0				Ground Surface			4" Steel Protective Casing with Lock 2-inch Dia. Permanent Monitoring Well
5	1	DELTAIC UNIT	2.5'	Brown fine to medium SAND, trace fine Gravel, frozen.	SW	4/5/2011 - ADT commencing drilling	Cement-bentonite grout 2" PVC riser
10	2		2.5'	Brown light Tan fine to medium SAND, loose, moist, trace fine Gravel.	SW		7" temporary double casing to 75'
15	3		2.5'	Brown to dark Brown medium to coarse SAND, trace fine to mediuim Gravel, moist. Grades to a dark Brown- Black fine to medium SAND, roots observed. (Area was filled, sample assumed to represent the interface between the fill and the former ground surface).	SW		
20	4/5		3.5'	15' -17' - Tan to Grey fine to medium SAND, some coarse Sand, wet, loose. 17' - 20' - Color change to Brown with a 1" lens of Reddish-Brown oxidized fine SAND, firm, wet.	SW		
25	6/7		4.5'	20-22.5 - Brown-Tan Silty SAND, trace fine Gravel, firm, moist.	SM		
				22.5'-25' - Grey Silty SAND, dense, moist.	SM		
30	8	UPPER TILL UNIT	5'	Grey Silty SAND, little fine to coarse Gravel, dense, wet, trace Clay.	SM		
35	9		2.5'	Same as above, wet. Increased Clay content observed, slightly plastic	SM-SC		
40	10		1.0'	Sandstone cobble in shoe of sample barrel. Grey fine to medium Clayey SAND, little fine to medium Gravel, moist, slightly plastic	SC		

SUBSURFACE INVESTIGATION LOG

Boring No. MW-E

B&L Project N 244.104

Project:	Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation			**Boring Location Description:**	
Project Location:	Sand Road, Schuyler Falls, NY				
Drill Rig:	Compact Roto-Sonic 17-C	**Start Date:**	4/5/2011	**Northing:**	1712426.00 NYSP NAD27
Casing:	4-inch, 7-inch	**Finish Date:**	4/12/2011	**Easting:**	693041.54 NYSP NAD27
Soil Sampler:	5 foot soil sampler	**Contractor:**	Aquifer Drilling and Testing, Inc.	**GS Elevation:**	AMSL
Sample Hammer:	**Weight:** N/A **Fall:** N/A	**Driller:**	Chris Stratton	**TOC Elevation:**	600.76 PVC Rim
Other:	Roto Sonic	**B&L Geologist:**	Bryce Dingman	**Total Depth:**	178.70 From PVC Rim

Depth (ft)	Sample Number	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
45	11	UPPER TILL UNIT	2.5'	Grey, fine, Clayey-SAND, little fine Gravel, trace coarse Gravel, sub-rounded, wet, slightly plastic	SC		
50	12		3.0'	Same as above, wet, slightly plastic.	SC		
55	13/14		5.0'	50-52' - Brown-Tan fine SAND, little fine Gravel, trace medium to coarse Gravel, dense, wet. 52-55' - Grey fine SAND, little fine to medium Gravel, trace coarse Gravel, sub-rounded, wet-moist, dense.	SW		
60	15		4.5	55-59' - Brown fine SAND, little fine to medium Gravel, firm, moist-wet. 59-60' - Brown fine SAND with intermittent Silt lenses (Grey). Large cobble in bottom of sample, material is becoming more coarse at bottom of sample.	SW-SM		
65	16/17	OUTWASH UNIT	3'	60-63' - Brown-Grey fine to medium SAND, little fine to medium Gravel, trace Sandstone cobbles. Hard to determine moisture since sample was in water overnight generated from the drilling process. 63'-65' - Brown-Red fine SAND, trace coarse Sand and fine Gravel, firm-dense, moist-wet. Gravel fragments appear damp when exposed from sample container.	SW	4/6/11 - ADT Shut down @ 10:30 A.M. Need part to advance 7" secondary casing.	Cement-bentonite grout 2" PVC riser
70	18		1'	Tan SANDSTONE fragment lodged in bottom of shoe. Sandstone composed of pink quartz matrix, sub-rounded grains, well cemented.		4/7/2011 - ADT continuing to advace boring.	
75	19/20		4'	70'-71.5' - Grey medium to fine SAND with little fine to coarse Gravel, saturated.	SW		
		LOWER TILL UNIT		71.5' - 75' - Red and Grey mottled sandy TILL. Fine SAND, little fine to coarse gravel, moist, dense.	SW		
80	21		4.5'	75'-77' - Reddish-Grey SILT, trace medium to coarse Gravel, moist, firm. 77'-80' - Reddish-Grey fine SAND matrix with little Silt, little to trace fine to medium Gravel, moist.	SM		
85	22		3'	Reddish-Brown fine to medium SAND with trace coarse Sand and fine Gravel, wet. Last 6-inches of boring was through cobbles. 84.5' to 85' - Saturated.	SW		

SUBSURFACE INVESTIGATION LOG

Boring No. MW-E

B&L Project N 244.104

Project: Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation

Project Location: Sand Road, Schuyler Falls, NY

Boring Location Description:

Drill Rig:	Compact Roto-Sonic 17-C	**Start Date:**	4/5/2011	**Northing:**	1712426.00	NYSP NAD27
Casing:	4-inch, 7-inch	**Finish Date:**	4/12/2011	**Easting:**	693041.54	NYSP NAD27
Soil Sampler:	5 foot soil sampler	**Contractor:**	Aquifer Drilling and Testing, Inc.	**GS Elevation:**		AMSL
Sample Hammer:	**Weight:** N/A **Fall:** N/A	**Driller:**	Chris Stratton	**TOC Elevation:**	600.76	PVC Rim
Other:	Roto Sonic	**B&L Geologist:**	Bryce Dingman	**Total Depth:**	178.70	From PVC Rim

Depth (ft)	Sample Number	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion
90	23	LOWER TILL UNIT	1.5'	Cobble zone, poor recovery. Rock fragments cosist of Sandstone ranging in color from Red to White to Grey. Rock fragments are mostly angular.		ADT having difficulty advancing due to possible boulder or cobble zone.	
95	24		2'	Brown fine to medium SAND, trace coarse Sand and fine Gravel, firm to loose, occasional cobble, wet.	SW		
100	25		3'	Brown fine to medium SAND, little coarse Sand, trace fine to medium Gravel, moist to wet, firm.	SW		Cement-bentonite grout 2" PVC riser
105	26		5'	100' to 101' - Brown with Grey mottling fine-medium SAND, trace medium Gravel, wet. 101' to 105' - Reddish-Brown fine to medium SAND, little fine to medium Gravel, occasional Silt seams, zone of saturation from 102' to 103', remainder of sample is moist. Very dense.	SW		
110	27		4'	Brown-Tan fine to medium SAND, little fine to medium Gravel, moist to wet, dense. Orange mottling observed from 109' to 100'.	SW		
115			3.5'	110' to 112' - Reddish-Brown fine to medium SAND, trace fine Gravel, moist, dense. 112' to 115' - Reddish-Tan fine to medium SAND, little fine to medium Gravel, cobble from 114' to 114.3' (Qtz Sandstone), moist very dense.	SW		
120	28		5'	Reddish-Brown fine to medium SAND, trace fine Gravel, moist, very dense. Dark Brown mottling throughout sample.	SW		
125	29		5'	Same as above, moist, occasional medium Gravel.	SW		
130	30		5'	125' to 126.5' - Reddish-Brown fine to medium SAND, trace fine Gravel, moist, dense. 126.5' to 130 ' - Brown-Reddish/Brown medium to fine SAND, loose - firm, moist.	SW		

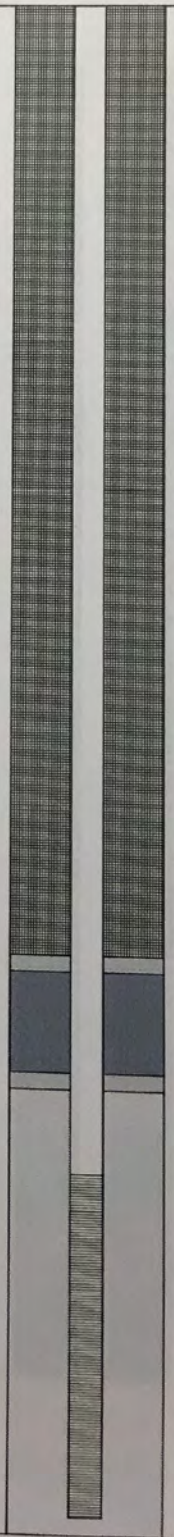
SUBSURFACE INVESTIGATION LOG

Boring No. MW-E

B&L Project N 244.104

Project:	Former Schuyler Falls (Closed) Landfill Corrective Measures Investigation			**Boring Location Description:**	
Project Location:	Sand Road, Schuyler Falls, NY				
Drill Rig:	Compact Roto-Sonic 17-C	**Start Date:**	4/5/2011	**Northing:**	1712426.00 NYSP NAD27
Casing:	4-inch, 7-inch	**Finish Date:**	4/12/2011	**Easting:**	693041.54 NYSP NAD27
Soil Sampler:	5 foot soil sampler	**Contractor:**	Aquifer Drilling and Testing, Inc.	**GS Elevation:**	AMSL
Sample Hammer:	**Weight:** N/A **Fall:** N/A	**Driller:**	Chris Stratton	**TOC Elevation:**	600.76 PVC Rim
Other:	Roto Sonic	**B&L Geologist:**	Bryce Dingman	**Total Depth:**	178.70 From PVC Rim

Depth (ft)	Sample Number	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details
135	31	LOWER TILL UNIT	3'	130' to 131' - Tan coarse SAND, loose, wet. 131' to 135' - Rusty Brown fine to medium SAND, dense, moist, trace coarse Gravel.	SW	4/7/11 - ADT shut down for the day. 4/8/11 - ADT locked up drilling string, unable to advance until they free up equipment.
140	32		2'	Reddish-Brown fine to medium SAND, little fine to medium Gravel, dense, moist. Color change to Orange/Brown medium to fine SAND, loose, wet.	SW	4/11/2011 - ADT continuing to advance boring.
145	33		5'	Tan-Brown with Orange mottling medium to coarse SAND, some to little fine to medium Gravel, moist to wet, firm. 142' to 142.5' - 6" zone of saturation.	SW	
150	34		2'	Same as above	SW	
155	35		2'	150-152' - Slough. 152-153.5' - Reddish-Brown fine SAND with Sandstone cobble, moist, dense. 153.5'-155' Brown fine to medium SAND, some coarse Sand, trace fine to medium Gravel, firm, moist to wet.	SW	
160	36		2.5'	Light Tan-Brown fine to medium SAND, little fine to medium Gravel, dense, moist, trace Sandstone fragments observed.	SW	
165	37		3'	160-163' - Same as above. 163-165' - Brown medium SAND, trace medium Gravel, wet. Grey silt seam observed at bottom of sample.	SW	
170	38-40		4'	165'-165.5' - Reddish-Brown with Orange mottling Silty SAND, wet, trace fine to medium Gravel, angular. 165.5'-167' - Tan Silty SAND with fine to medium Gravel, angular, saturated. 167-170' - Reddish-Brown Silty fine SAND, trace fine Gravel, wet.	SM	
175	41		4.5'	Brown fine SAND, little medium Sand, trace fine Gravel, wet-saturated.	SW	ADT only had enough sampling rods to go to 175'. ADT will set well at 176'.



Well Completion:
- Cement-bentonite grout
- 2" PVC riser
- 159' - Top of #00N choker sand pack
- 159.9' - Top of bentonite seal
- 162.2' - Top of #00N choker sand pack
- 164' - Top of filter sand pack
- 166' - Top of screen
- #NJ 0N Filter sand pack
- 2-in dia. PVC 10-ft length continuous wire-wrap screen
- 176 - Bottom of screen

BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Well No. MW-212

Sheet 1 of 1

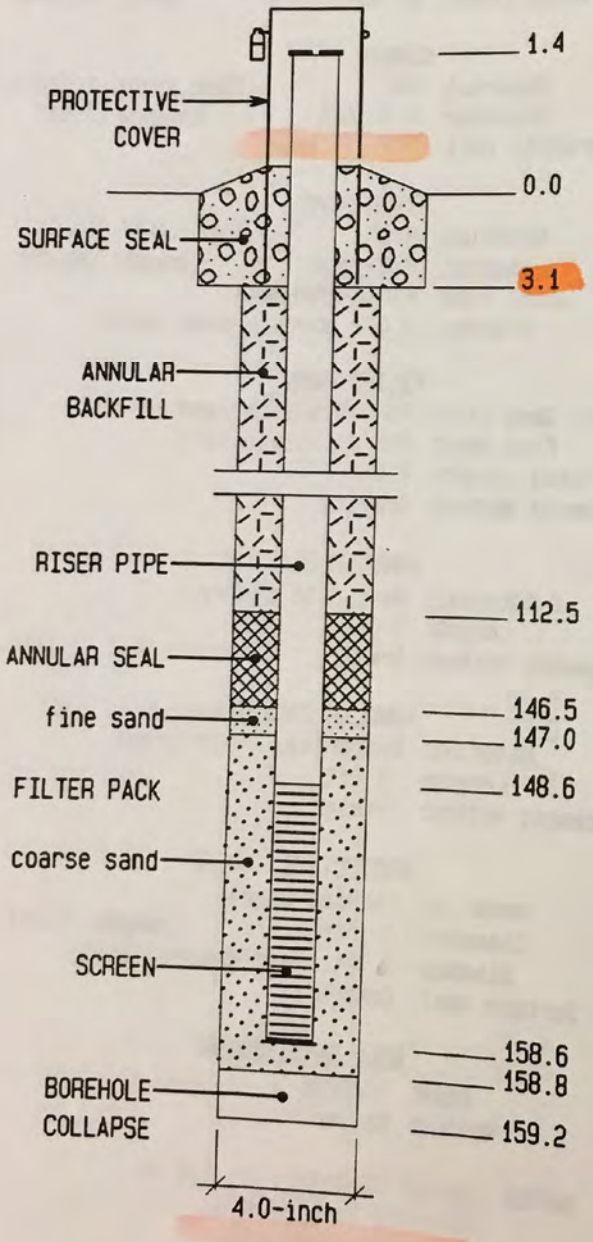
PROJECT No. 244.26

PROJECT: Phase I Hydrogeologic Investigation
CLIENT: Clinton County Solid Waste Division
LOCATION: Schuyler Falls Sanitary Landfill

TOP OF RISER PIPE: 614.59ft
GROUND ELEVATION: 613.2ft
DATUM: NGVD

WELL TYPE: Monitoring well
INSTALLED AT: EB-8A
DATE: 5/04/92

NOT TO SCALE — DEPTHS IN FEET



GEOLOGIST: Steffan Fay
CONTRACTOR: Atlantic Testing Laboratories

TOTAL WELL DEPTH: 160.1ft below top of riser pipe
WATER LEVEL: 113.71ft DATE: 6/22/92

SCREEN

Material: PVC Slot size: 0.010-inch
Diameter: 2.0-inch Length: 10.0ft
Stratigraphic unit: Potsdam Sandstone

RISER PIPE

Material: PVC
Diameter: 2.0-inch Length: 150.0ft
Joint type: Flush-threaded
Standup: 1.4ft above ground level

FILTER PACK

Material: Sand size: #0K 2Q silica sand
Fine Sand: #0K 00 silica sand
Total Length: 12.3ft
Placement Method: Gravity / wash

ANNULAR SEAL

Material: Bentonite slurry
Length: 34ft
Placement method: Tremie

ANNULAR BACKFILL

Material: Bentonite/cement grout
Length: 109.4ft
Placement Method: Tremie

PROTECTIVE COVER

Material: Painted steel
Diameter: 6-inch Length: 5.0ft
Standup: 1.9ft above ground level
Surface seal: Concrete

WELL DEVELOPMENT

Date: 7/27/92
Method: Air-lift pump

NOTES: Pumped Bailed 45 galls. in 2.0 hrs.
Recovery time <1 hr.
(Turbidity = 13.7 NTU)

BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Well No. MW-216

Sheet 1 of 1

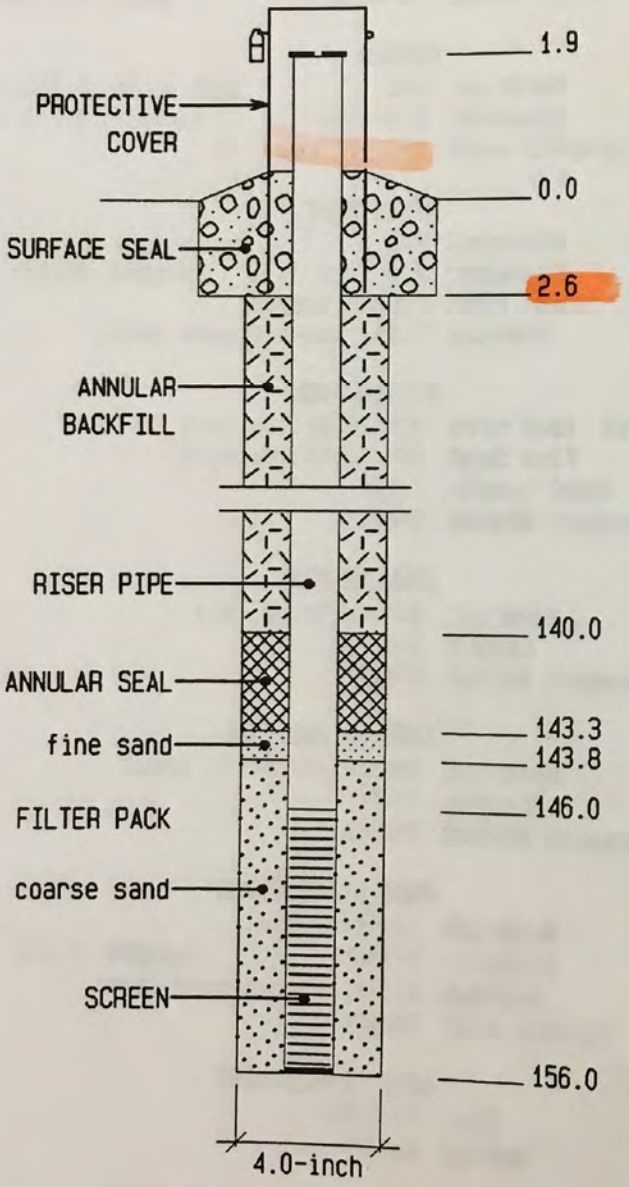
PROJECT No. 244.26

PROJECT: Phase I Hydrogeologic Investigation
CLIENT: Clinton County Solid Waste Division
LOCATION: Schuyler Falls Sanitary Landfill

TOP OF RISER PIPE: 617.52ft
GROUND ELEVATION: 615.6ft
DATUM: NGVD

WELL TYPE: Monitoring well
INSTALLED AT: EB-9A
DATE: 5/19/92

NOT TO SCALE — DEPTHS IN FEET



GEOLOGIST: James Gruppe
CONTRACTOR: Atlantic Testing Laboratories

TOTAL WELL DEPTH: 157.9ft below top of riser pipe
WATER LEVEL: 102.36ft DATE: 6/22/92

SCREEN
Material: PVC Slot size: 0.010-inch
Diameter: 2.0-inch Length: 10.0ft
Stratigraphic unit: Potsdam Sandstone

RISER PIPE
Material: PVC
Diameter: 2.0-inch Length: 147.9ft
Joint type: Flush-threaded
Standup: 1.9ft above ground level

FILTER PACK
Material: Sand size: ROK 20 silica sand
Fine Sand: ROK 00 silica sand
Total Length: 12.7ft
Placement Method: Gravity

ANNULAR SEAL
Material: Bentonite slurry
Length: 3.3ft
Placement method: Tremie

ANNULAR BACKFILL
Material: Bentonite/cement grout
Length: 137.4ft
Placement Method: Tremie

PROTECTIVE COVER
Material: Painted steel
Diameter: 6-inch Length: 5.0ft
Standup: 2.4ft above ground level
Surface seal: Concrete

WELL DEVELOPMENT
Date: 7/28/92
Method: Air-lift pump

NOTES: Pumped 50 galls. in 3.0 hrs.
Recovery time <1 hr.
(Turbidity = 37.1 NTU)

B&L

BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Well No. MW-220

Sheet 1 of 1

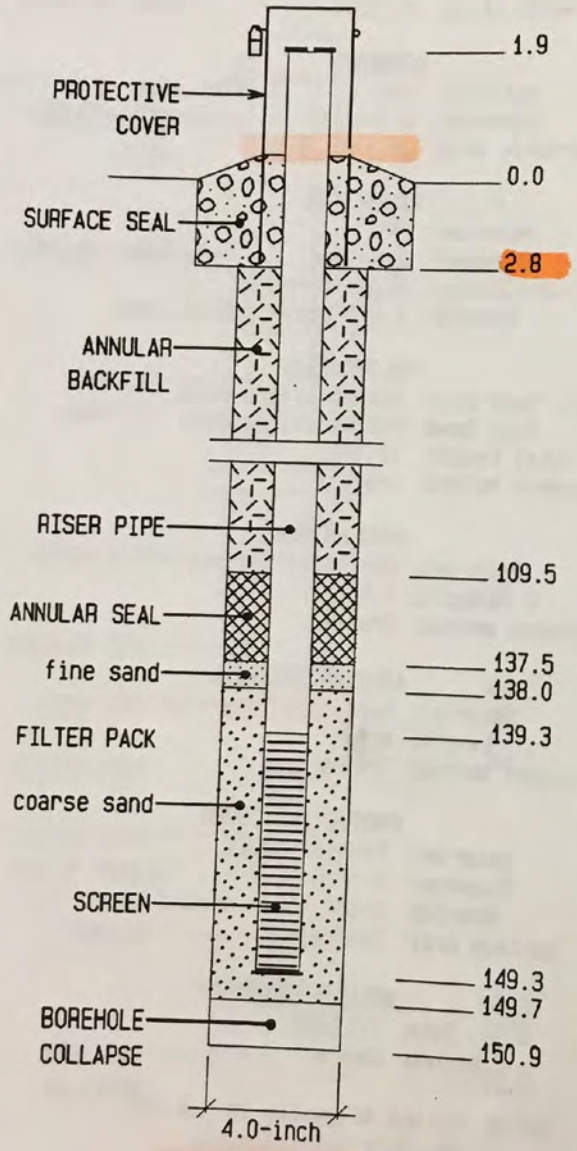
PROJECT No. 244.26

PROJECT: Phase I Hydrogeologic Investigation
CLIENT: Clinton County Solid Waste Division
LOCATION: Schuyler Falls Sanitary Landfill

TOP OF RISER PIPE: 616.38ft
GROUND ELEVATION: 614.5ft
DATUM: NGVD

WELL TYPE: Monitoring well
INSTALLED AT: EB-10A
DATE: 5/14/92

NOT TO SCALE — DEPTHS IN FEET



GEOLOGIST: Steffan Fay
CONTRACTOR: Atlantic Testing Laboratories

TOTAL WELL DEPTH: 151.2ft below top of riser pipe
WATER LEVEL: 122.21ft DATE: 6/22/92

SCREEN

Material: PVC Slot size: 0.010-inch
Diameter: 2.0-inch Length: 10.0ft
Stratigraphic unit: Potsdam Sandstone

RISER PIPE

Material: PVC
Diameter: 2.0-inch Length: 141.2ft
Joint type: Flush-threaded
Standup: 1.9ft above ground level

FILTER PACK

Material: Sand size: ROK 2Q silica sand
Fine Sand: ROK 00 silica sand
Total Length: 12.2ft
Placement Method: Gravity

ANNULAR SEAL

Material: Bentonite slurry
Length: 28ft
Placement method: Tremie

ANNULAR BACKFILL

Material: Bentonite/cement grout
Length: 106.7ft
Placement Method: Tremie

PROTECTIVE COVER

Material: Painted steel
Diameter: 6-inch Length: 5.0ft
Standup: 2.2ft above ground level
Surface seal: Concrete

WELL DEVELOPMENT

Date: 7/28/92
Method: Air-lift pump

NOTES: Pumped Bailed 18 galls. in 1.5 hrs.
Recovery time 1 hr.
(Turbidity = 3.22 NTU)

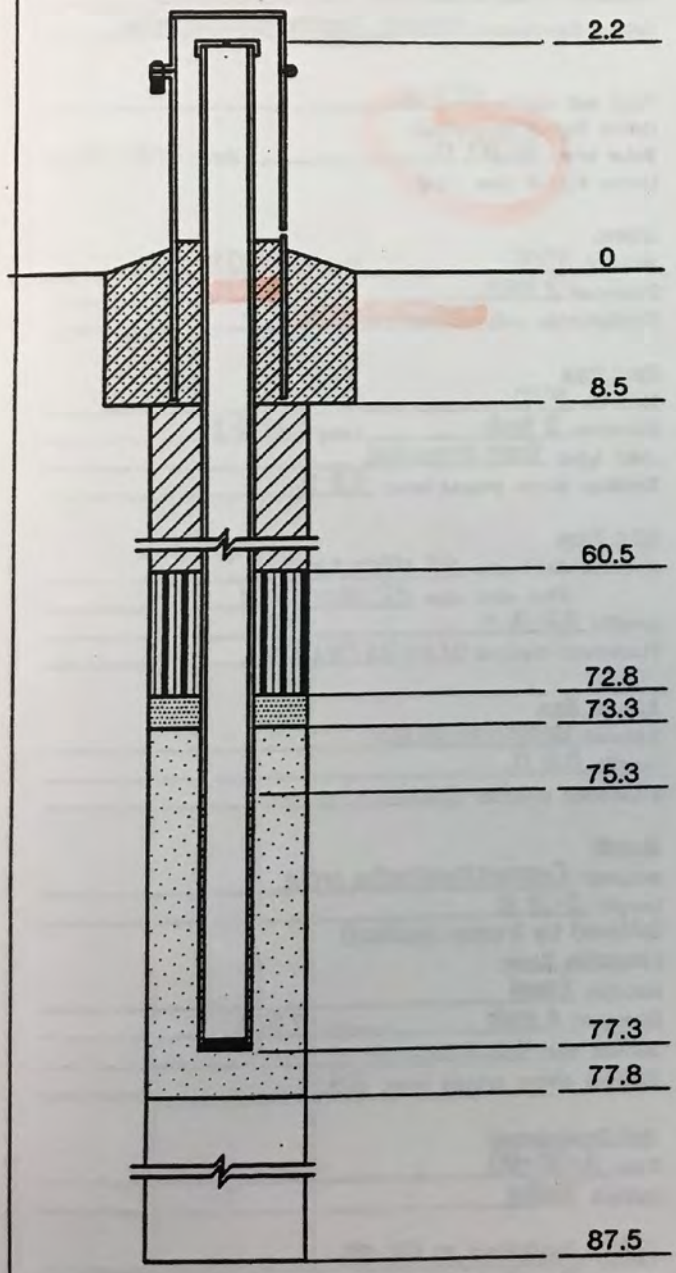
BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Client: Clinton County
Project: Aquifer Investigation
Project No.: 244.17

Top of riser pipe 626.31 ft.
Ground elevation 624.1 ft.
Datum USGS (ft. a.m.s.l.)

WELL NO. P-101
Type: Piezometer
Location: EB-2/Schuyler Falls Landfill
Installation Date: 3-19-90



NOT TO SCALE

measured in feet

Inspector: Tanya D. Sleight
Drilling Contractor: Atlantic Testing Laboratories

Total well depth: 79.5 ft.
(below top of riser pipe)
Water level: 70.68 ft. Date: 5-31-90
(below top of riser pipe)

Screen
Material: PVC Slot size: 0.010 inch
Diameter: 1-1/4 inch Length: 2.0 ft.
Stratigraphic unit: Till/outwash sequence(nonstratified)
cobbly till

Riser Pipe
Material: PVC
Diameter: 1-1/4 inch Length: 77.5 ft.
Joint type: flush threaded
Standup above ground level: 2.2 ft.

Filter Pack
Material: Sand size: #3 silica sand
Fine sand size: #2 silica sand
Length: 5.0 ft.
Placement method: gravity/wash

Annular Seal
Material: Bentonite pellets
Length: 12.3 ft.
Placement method: gravity

Backfill
Material: Cement/bentonite grout
Length: 52.0 ft.
(placed by tremie method)

Protective Cover
Material: Steel
Diameter: 4 inch Length: 7.0 ft.
Surface seal: Concrete
Standup above ground level: 2.4 ft.

Well Development
Date: 4-30-90
Method: Bailer

Notes: Installed at EB-2A.
Backfilled from 87.5-77.8 ft. with bentonite pellets.

B&L Form # 139

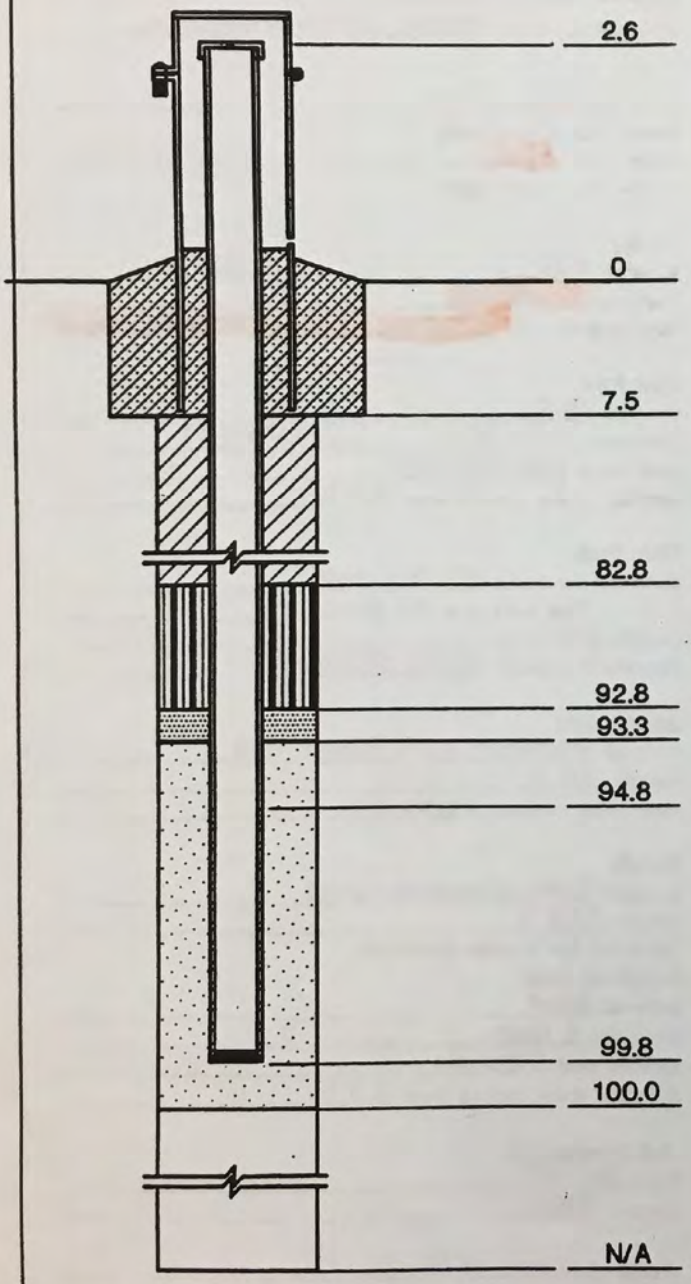
BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Client: Clinton County
Project: Aquifer Investigation
Project No.: 244.17

Top of riser pipe 625.04 ft.
Ground elevation 622.4 ft.
Datum USGS (ft. a.m.s.l)

WELL NO. P-108
Type: Piezometer
Location: EB-2/Schuyler Falls Landfill
Installation Date: 4-16-90



NOT TO SCALE

measured in feet

Inspector: Tanya D. Sleight
Drilling Contractor: Atlantic Testing Laboratories

Total well depth: 102.4 ft.
(below top of riser pipe)
Water level: 77.86 ft. Date: 5-31-90
(below top of riser pipe)

Screen
Material: PVC Slot size: 0.010 inch
Diameter: 2 inch Length: 5.0 ft.
Stratigraphic unit: Potsdam Sandstone

Riser Pipe
Material: PVC
Diameter: 2 inch Length: 97.4 ft.
Joint type: flush threaded
Standup above ground level: 2.6 ft.

Filter Pack
Material: Sand size: #3 silica sand
Fine sand size: #2 silica sand
Length: 7.2 ft.
Placement method: gravity/wash

Annular Seal
Material: Bentonite slurry (Quick Gel)
Length: 10.0 ft.
Placement method: tremie pipe

Backfill
Material: Cement/bentonite grout
Length: 75.3 ft.
(placed by tremie method)

Protective Cover
Material: Steel
Diameter: 4 inch Length: 7.0 ft.
Surface seal: Concrete
Standup above ground level: 2.8 ft.

Well Development
Date: 5-1-90
Method: Bailer

Notes: Installed at EB-2D.

B&L Form # 139

BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Well No. P-213

Sheet 1 of 1

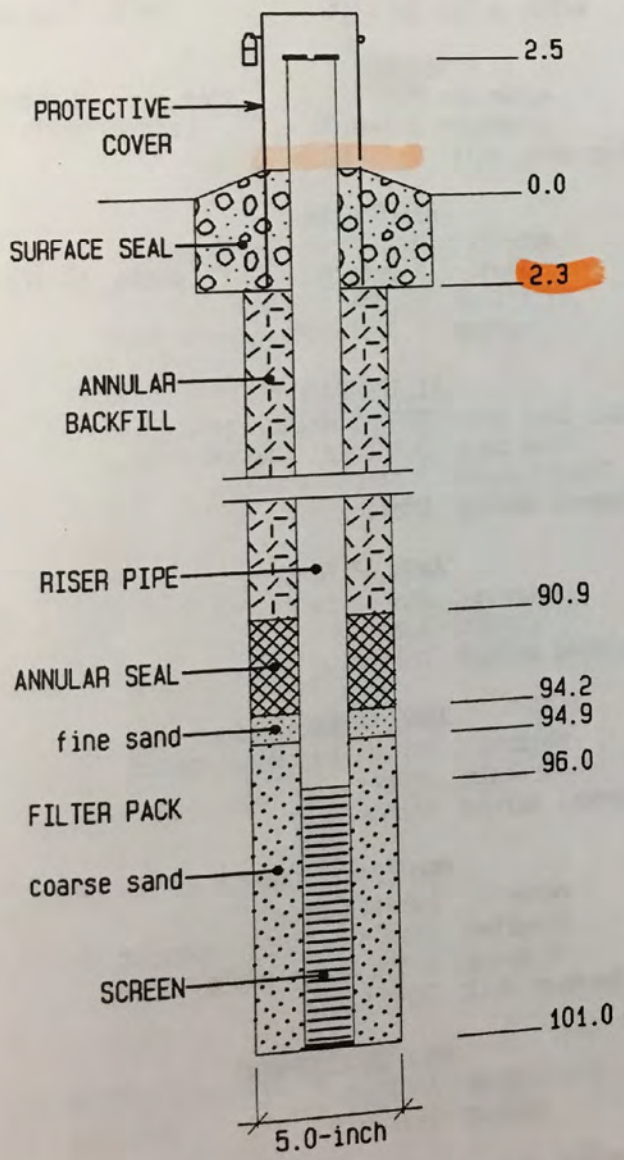
PROJECT: Phase I Hydrogeologic Investigation
CLIENT: Clinton County Solid Waste Division
LOCATION: Schuyler Falls Sanitary Landfill

PROJECT No. 244.26

TOP OF RISER PIPE: 615.71ft
GROUND ELEVATION: 613.2ft
DATUM: NGVD

WELL TYPE: Piezometer
INSTALLED AT: EB-8B
DATE: 6/11/92

NOT TO SCALE — DEPTHS IN FEET



GEOLOGIST: Steffan Fay
CONTRACTOR: Atlantic Testing Laboratories

TOTAL WELL DEPTH: 103.5ft below top of riser pipe
WATER LEVEL: 102.96ft DATE: 7/28/92

SCREEN
Material: PVC Slot size: 0.010-inch
Diameter: 2.0-inch Length: 5.0ft
Stratigraphic unit: Cobbly Till Unit

RISER PIPE
Material: PVC
Diameter: 2.0-inch Length: 98.5ft
Joint type: Flush-threaded
Standup: 2.5ft above ground level

FILTER PACK
Material: Sand size: #0K 2Q silica sand
Fine Sand: #0K 00 silica sand
Total Length: 6.8ft
Placement Method: Gravity

ANNULAR SEAL
Material: Bentonite pellets
Length: 3.3ft
Placement method: Gravity

ANNULAR BACKFILL
Material: Bentonite/cement grout
Length: 88.6ft
Placement Method: Tremie

PROTECTIVE COVER
Material: Painted steel
Diameter: 6-inch Length: 5.0ft
Standup: 2.7ft above ground level
Surface seal: Concrete

WELL DEVELOPMENT
Date: 7/27/92
Method: NA

NOTES: Dry

BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Well No. P-217

Sheet 1 of 1

PROJECT: Phase I Hydrogeologic Investigation
CLIENT: Clinton County Solid Waste Division
LOCATION: Schuyler Falls Sanitary Landfill

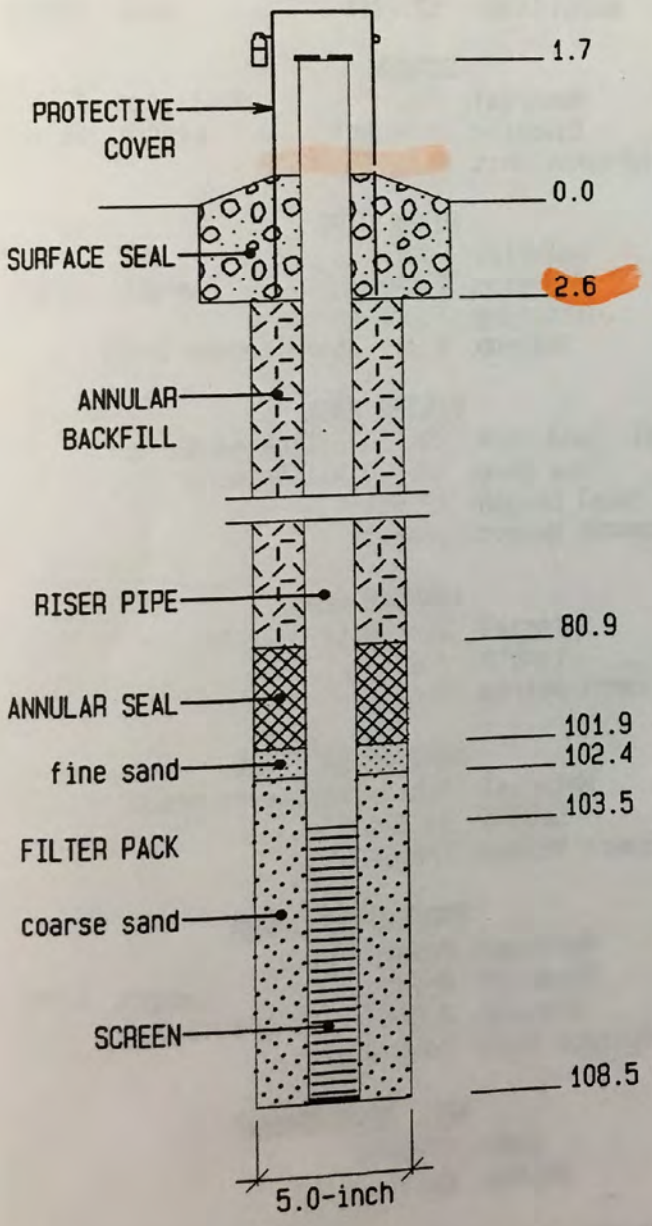
PROJECT No. 244.26

TOP OF RISER PIPE: 617.83ft
GROUND ELEVATION: 616.1ft
DATUM: NGVD

WELL TYPE: Piezometer
INSTALLED AT: EB-9B
DATE: 6/21/92

NOT TO SCALE

DEPTHS IN FEET



GEOLOGIST: Steffan Fay
CONTRACTOR: Atlantic Testing Laboratories

TOTAL WELL DEPTH: 110.2ft below top of riser pipe
WATER LEVEL: 97.84ft DATE: 7/8/92

SCREEN
Material: PVC Slot size: 0.010-inch
Diameter: 2.0-inch Length: 5.0ft
Stratigraphic unit: Cobbly Till Unit

RISER PIPE
Material: PVC
Diameter: 2.0-inch Length: 105.2ft
Joint type: Flush-threaded
Standup: 1.7ft above ground level

FILTER PACK
Material: Sand size: ROK 2Q silica sand
Fine Sand: ROK 00 silica sand
Total Length: 6.6ft
Placement Method: Gravity

ANNULAR SEAL
Material: Bentonite slurry
Length: 21.0ft
Placement method: Tremie

ANNULAR BACKFILL
Material: Bentonite/cement grout
Length: 78.3ft
Placement Method: Tremie

PROTECTIVE COVER
Material: Painted steel
Diameter: 6-inch Length: 5.0ft
Standup: 2.4ft above ground level
Surface seal: Concrete

WELL DEVELOPMENT
Date: 7/28/92
Method: Bailer

NOTES: Bailed 1.5 galls. in 0.2 hrs.
Recovery time >1 hr.
(Turbidity >200 NTU)

BARTON & LOGUIDICE, P.C.

INSTALLATION DETAIL

Well No. P-221

Sheet 1 of 1

PROJECT: Phase I Hydrogeologic Investigation
CLIENT: Clinton County Solid Waste Division
LOCATION: Schuyler Falls Sanitary Landfill

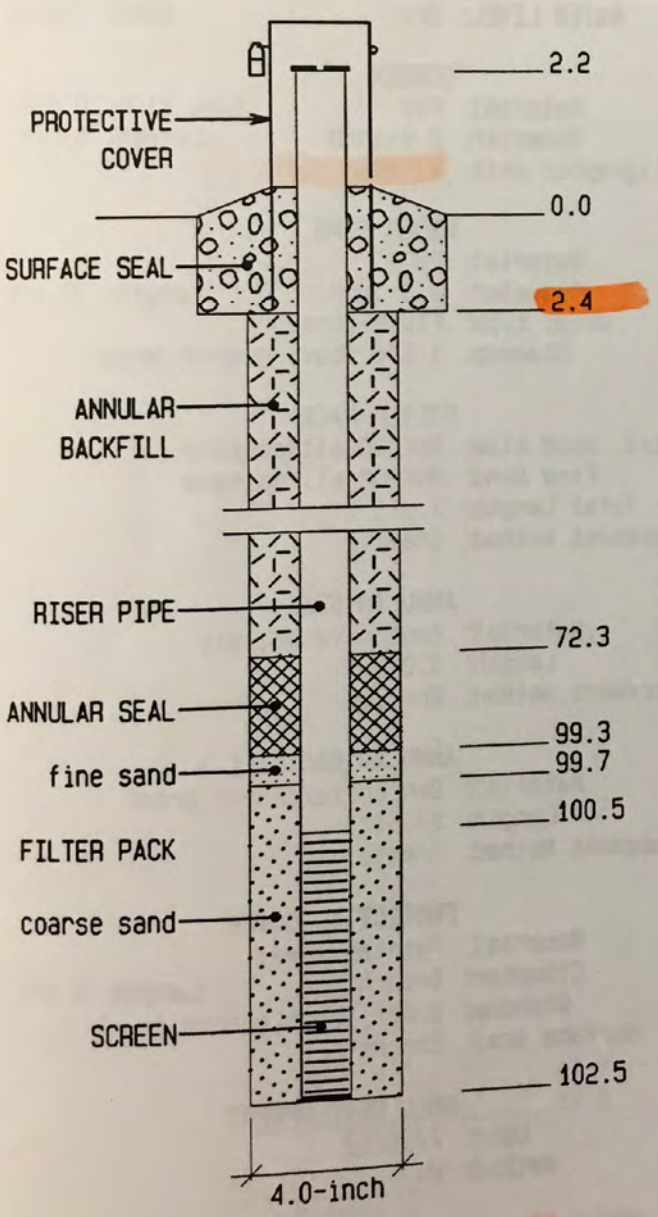
PROJECT No. 244.26

TOP OF RISER PIPE: 616.73ft
GROUND ELEVATION: 614.6ft
DATUM: NGVD

WELL TYPE: Piezometer
INSTALLED AT: EB-10B
DATE: 6/16/92

NOT TO SCALE

DEPTHS IN FEET



GEOLOGIST: Steffan Fay
CONTRACTOR: Atlantic Testing Laboratories

TOTAL WELL DEPTH: 104.7ft below top of riser pipe
WATER LEVEL: Dry DATE: 6/22/92

SCREEN
Material: PVC Slot size: 0.010-inch
Diameter: 2.0-inch Length: 2.0ft
Stratigraphic unit: Cobbly Till Unit

RISER PIPE
Material: PVC
Diameter: 2.0-inch Length: 102.7ft
Joint type: Flush-threaded
Standup: 2.2ft above ground level

FILTER PACK
Material: Sand size: ROK 2Q silica sand
Fine Sand: ROK 00 silica sand
Total Length: 3.2ft
Placement Method: Gravity

ANNULAR SEAL
Material: Bentonite slurry
Length: 27ft
Placement method: Tremie

ANNULAR BACKFILL
Material: Bentonite/cement grout
Length: 69.9ft
Placement Method: Tremie

PROTECTIVE COVER
Material: Painted steel
Diameter: 6-inch Length: 5.0ft
Standup: 2.6ft above ground level
Surface seal: Concrete

WELL DEVELOPMENT
Date: 7/28/92
Method: NA

NOTES: Dry

Attachment 3

Sampling Logs

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

Date	5/30/2018	Personnel	JLP & JG	Weather	80°F ,clear
Site Name	Clinton County LF	Evacuation Method	Bladder QED sample	Well #	MW-212
Site Location	Morrisonville, NY	Sampling Method	Low Flow	Project #	65982

Well information:

Depth of Well *	~160.82	ft.	* Measurements taken from	
Depth to Water *	106.84	ft.	x	Top of Well Casing
Length of Water Column	53.98	ft.		Top of Protective Casing
Depth to Intake *	~155	ft.		(Other, Specify)

Start Purge Time: 1000

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
0	106.20	17.7	8.22	0.563	68.8	4.25	13.1	125
5	107.66	12.0	7.84	0.582	34.9	2.32	27.6	200
10	107.81	11.5	7.44	0.578	26.1	1.62	22.0	200
15	107.80	11.9	7.44	0.580	20.3	1.51	13.0	200
20	107.78	12.0	7.31	0.590	17.6	1.38	13.1	200
25	107.70	12.1	7.47	0.618	18.9	1.20	13.1	200
30	107.68	12.2	7.62	0.662	19.9	0.97	13.0	200
35	107.62	12.2	7.54	0.671	18.4	0.98	12.7	200
40	107.59	12.3	7.65	0.690	18.0	0.97	12.6	200
45	107.58	12.3	7.65	0.691	18.0	0.97	12.6	200
		collect sample @ 1055						

End Purge Time: 1045

Water sample:

Time collected: 1055

Total volume of purged water removed: ~0.60 gallons

Physical appearance at start		Physical appearance at sampling	
Color	clear w. white CaCo_3	Color	clear
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Notes:
Sampled using QED sample pro bladder pump
PINE ID: 1632
EB: 5-CLI-002-002-04
Field ID: 5-CLI-002-002-01

Analytical Parameters

Location ID: 5-CLI-002-MW-212

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

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

Date	5/31/2018	Personnel	Joe Perry/ John Gardner	Weather	80°F, clear
Site Name	Clinton County LF	Evacuation Method	2" Bailer (HOPE)	Well #	MW-213 **
Site Location	Morrisonville, NY	Sampling Method	Bailer- no purge	Project #	65982

Well information:

Depth of Well *	~103.54	ft.	* Measurements taken from	
Depth to Water *	99.23	ft.	X	Top of Well Casing
Length of Water Column	4.31	ft.		Top of Protective Casing
Depth to Intake *	N/A	ft.		(Other, Specify)

Start Purge Time: *N/A

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
	* Purging of well volumes was not conducted prior to sampling due to low water column volume.							
	NYSDEC gave okay to sample MW-213 w/PFAS free bailer.							

End Purge Time: *N/A

note: only PFAS, VOCs 8260, and PAHS 1,4 Diox, 8270 were collected for analytical analysis due to low volume wells

Water sample:

Time collected: 920

Total volume of purged water removed: N/A

Physical appearance at start		Physical appearance at sampling	
Color	clear w CaCo_3 particulate	Color	clear w/ CaCo_3
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

** MW-213 represents P-213 in the workplan

Field ID: 5-CLI-002-003-01

Location ID: 5-CLI-002-MW-213

Analytical Parameters:

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

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

Date	5/30/2018	Personnel	JLP & JG	Weather	80°F, clear
Site Name	Clinton County LF	Evacuation Method	bladder- QED sample pro	Well #	MW-216
Site Location	Morrisonville, NY	Sampling Method	Low Flow	Project #	65982

Well information:

Depth of Well *	160.41	ft.	* Measurements taken from	
Depth to Water *	100.25	ft.	X	Top of Well Casing
Length of Water Column	60.16	ft.		Top of Protective Casing
Depth to Intake *	~155.00	ft.		(Other, Specify)

Start Purge Time: 940

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
0	100.71	10.7	9.74	0.70	-32.7	3.37	56.9	220
5	100.74	10.8	8.57	0.71	-43.4	3.11	43.1	200
10	100.78	10.7	9.44	0.71	-66.1	5.69	37.3	200
15	100.78	10.7	9.62	0.72	-111.2	6.81	35.4	200
20	100.78	10.8	9.58	0.72	-104.6	7.12	31.5	200
25	100.79	10.8	9.57	0.72	-98.7	8.13	28.3	200
30	100.83	10.6	9.51	0.72	-99.4	7.07	30.0	200
35	100.82	10.6	9.55	0.72	-93.4	7.85	28.5	200
40	100.82	10.8	9.25	0.72	-89.9	7.44	24.5	200
45	100.82	10.9	9.19	0.72	-160.1	7.46	22.4	200
50	100.82	10.7	9.16	0.72	-96.3	8.11	23.6	200
55	100.83	10.7	9.13	0.72	-91.7	8.59	22.6	200
60	100.83	10.9	9.09	0.72	-84.8	8.22	21.3	200
		collected sample @ 1055						

End Purge Time: 1050

Water sample:

Time collected: 1050

Total volume of purged water removed: 4 gallons

Physical appearance at start		Physical appearance at sampling	
Color	clear	Color	clear
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Notes:

Sampled using QED sample pro bladder pump

PINE ID: 11286

EB: 5-CLI-002-002-06
Field ID: 5-CLI-002-002-02

Analytical Parameters:

Location ID: 5-CLI-002-MW-216

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

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

Date	6/1/2018	Personnel	Joe Perry/ John Gardner	Weather	77°F, rain
Site Name	Clinton County LF	Evacuation Method	2"0D Bailer (HDPE)	Well #	MW-220
Site Location	Morrisonville, NY	Sampling Method	Bailer-no purge	Project #	65982

Well information:

Depth of Well *	154.23	ft.	* Measurements taken from	
Depth to Water *	120.92	ft.	X	Top of Well Casing
Length of Water Column	33.31	ft.		Top of Protective Casing
Depth to Intake *	*N/A	ft.		(Other, Specify)

Start Purge Time: *N/A

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
	*purging of well volumes was not conducted prior to sampling due to well development							
	conducted on previous week 5/25/8. see note below for sampling method.							
	note: due to obstruction in well, field team was unsuccessful at deploying QED bladder pump w/in							
	screen interval. NYSDEC gave permission to sample MW-220 using PFAS free bailer instead of low flow							

End Purge Time: * N/A

Water sample:

Time collected: 1700

Total volume of purged water removed: N/A

Physical appearance at start		Physical appearance at sampling	
Color	N/A	Color	N/A
Odor	N/A	Odor	N/A
Sheen/Free Product	N/A	Sheen/Free Product	N/A

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Field ID: 5-CLI-002-004-04

Analytical Parameters:

Location ID: 5-CLI-002-MW-220

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

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

Date	6/1/2018	Personnel	Joe Perry/ John Gardner	Weather	70°F, rain
Site Name	Clinton County LF	Evacuation Method	QED sample pro bladder	Well #	MW-C2
Site Location	Morrisonville, NY	Sampling Method	Low Flow	Project #	65982

Well information:

Depth of Well *	158.45	ft.	* Measurements taken from	
Depth to Water *	150.65	ft.	X	Top of Well Casing
Length of Water Column	8.3	ft.		Top of Protective Casing
Depth to Intake *	~154.00	ft.		(Other, Specify)

Start Purge Time: 900

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
-	151	16.0	6.69	0.78	-50.7	3.42	242	200
5	151	16.4	6.77	0.78	-65.6	0.34	46.40	200
10	151	16.3	6.85	0.78	-70.1	0.21	54.00	200
15	151	16.1	6.87	0.80	-74.2	0.16	23.30	200
20	151	16.6	6.87	0.81	-75.1	0.13	18.00	200
25	151	16.0	6.90	0.82	-80.8	0.09	8.71 (2)	200
30	151	16.0	6.94	0.83	-81.9	0.07	7.97(2)	200
35	151	16.2	6.99	0.84	-86.4	0.05	6.82 (2)	200
		sample collected at 9:40						

End Purge Time: 935

(2) collected sample outside +/- 10% turbidity due to reading being below 10 NTU.

Water sample:

standard met for below 50 NTU for analysis.

Time collected: 940

Total volume of purged water removed: N/A

Physical appearance at start		Physical appearance at sampling	
Color	clear w/ blk particles	Color	clear no blk particle
Odor	slight chem odor	Odor	slight chem odor
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A	note: sampled using pump #1: PINE ID: 16362
Dissolved total iron:	N/A	
Dissolved total manganese:	N/A	EB: 5-CLI-002-004-05 Field ID: 5-CLI-002-004-02

Analytical Parameters:

Location ID: 5-CLI-002-MW-C2

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

O'Brien & Gere Engineers, Inc.

Low Flow Ground Water Sampling Log

Date	6/1/2018	Personnel	Joe Perry/ John Gardner	Weather	85°F, clear
Site Name	Clinton County LF	Evacuation Method	Bladder-QED sample pro	Well #	MW-E
Site Location	Morrisonville, NY	Sampling Method	Low Flow	Project #	65982

Well information:

Depth of Well *	178.23	ft.	* Measurements taken from	
Depth to Water *	152.73	ft.	X	Top of Well Casing
Length of Water Column	25.5	ft.		Top of Protective Casing
Depth to Intake *	~170.0	ft.		(Other, Specify)

Start Purge Time: 830

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
0	154	9.3	9.07	0.78	-133.8	1.59	4.71	300
5	155	9.1	9.00	0.76	-164.5	1.13	2.67	300
10	155	9.1	8.97	0.76	-169.5	0.94	1.41	300
15	155	9.2	8.95	0.76	-172.5	0.94	1.92	300
20	155	9.2	8.93	0.76	-177.6	0.94	1.49	300
25	155	9.2	8.90	0.76	-183.4	0.81	1.74	300
30	155	9.4	8.88	0.75	-193.1	0.77	1.95	300
35	155	9.3	8.85	0.75	-196.5	0.72	1.98	300
40	155	9.2	8.83	0.75	-197.6	0.66	1.17	300
		sampled @ 0920						

End Purge Time: 910

Water sample:

Time collected: 920

Total volume of purged water removed: 12,000 mL→3.17 gallons

Physical appearance at start		Physical appearance at sampling	
Color	clear	Color	clear
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Pump #2: PINE ID: 11286

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

EB:5-CLI-002-004-06

Field ID: 5-CLI-002-004-01

Location ID: 5-CLI-002-MW-E

Analytical Parameters:

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

O'Brien & Gere Engineers, Inc.

Low Flow Ground Water Sampling Log

Date	6/1/2018	Personnel	Joe Perry/John Gardner	Weather	77°F, rain
Site Name	Clinton County LF	Evacuation Method	1" Bailer (HDPE)	Well #	P-101
Site Location	Morrisonville, NY	Sampling Method	Bailer- no purge	Project #	65982

Well information:

Depth of Well *	80.15	ft.	* Measurements taken from	
Depth to Water *	68.8	ft.	X	Top of Well Casing
Length of Water Column	11.35	ft.		Top of Protective Casing
Depth to Intake *	~80	ft.		(Other, Specify)

Start Purge Time: *N/A

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
	* purging of well volumes was not conducted prior to sampling due to well development							
	conduveted previous week on 5-24-18. see note below for sampling method.							

End Purge Time: N/A

note: due to pump failure, field team was unsuccessfulat collecting sample using low flow stabilization as intended, NYSDEC gave ok to sample P-101 using PFAS free bailer

Water sample:

Time collected: 1515

Total volume of purged water removed: N/A

Physical appearance at start		Physical appearance at sampling	
Color	clear	Color	clear
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Field ID: 5-CLI-002-004-03

Analytical Parameters:

Location ID: 5-CLI-002-P-101

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

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

Date	5/29/2018	Personnel	JLP & JG	Weather	80°F, clear skies
Site Name	Clinton County LF	Evacuation Method	Bladder Pump	Well #	P-108*
Site Location	Morrisonville, NY	Sampling Method	Low Flow	Project #	65982

Well information:

Depth of Well *	102.4	ft.	* Measurements taken from	
Depth to Water *	75.01	ft.	X	Top of Well Casing
Length of Water Column	27.39	ft.		Top of Protective Casing
Depth to Intake *	~100.00	ft.		(Other, Specify)

Start Purge Time: 1330

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
5	75.01	12.2	6.99	0.65	74.6	2.72	137	250
10	76.19	12.0	6.92	0.68	68.1	2.37	84.1	250
15	76.35	12.0	6.85	0.70	49.9	2.27	57.6	250
20	76.44	11.9	6.85	0.70	45.2	2.17	29.6	250
25	76.46	11.9	6.82	0.70	37.8	2.08	23.5	250
30	76.47	11.9	6.83	0.70	37.1	2.07	18.7	250
35	76.56	11.9	6.79	0.71	33.3	2.03	14.0	250
40	76.82	11.3	6.61	0.70	35.2	1.97	13.0	250
45	76.74	11.9	6.51	0.70	32.1	1.91	14.8	250
		collect sample @1425						

End Purge Time: 1415

*P-108 represents MW-108 in the work plan

Water sample:

Time collected: 1425

Total volume of purged water removed: ~2.97 to 3 gallons

Physical appearance at start		Physical appearance at sampling	
Color	white to clear	Color	clear
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Notes:

Sampled using QED sample pro bladder pump

PINE ID: 16362

EB: 5-CLI-002-001-03

Field ID: 5-CLI-002-001-01

Analytical Parameters:

Location ID: 5-CLI-002-P-108

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
PFAS	250mL HDPE	2	N		
1,4 DioX	1 liter Amber glass	2	N		
VOCs	40mL vials HCL	3	N		
Alk		1	N		
AmN		1	N		
40c 5w 346		1	N		
CHL		1	N		
COD		1	N		
Metals		1	N		

O'Brien & Gere Engineers, Inc.

Low Flow Ground Water Sampling Log

Date	5/31/2018	Personnel	Joe Perry, John Gardner	Weather	80°F clear
Site Name	Clinton County LF	Evacuation Method	2" Bailer (HOPE)	Well #	P-217
Site Location	Morrisonville, NY	Sampling Method	Bailer- no purge	Project #	65982

Well information:

Depth of Well *	108.32	ft.	* Measurements taken from	
Depth to Water *	104.49	ft.	X	Top of Well Casing
Length of Water Column	3.83	ft.		Top of Protective Casing
Depth to Intake *	N/A	ft.		(Other, Specify)

Start Purge Time: N/A

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
*								
	* purging of well volumes was not conducted due to low water column and suspected low							
	reacharge rates. See well development form. NYSDEC gave permission to sample with bailer							
	** field team attempted to sample well using both 1"00 and 2"00 HDPE bailer. Low volume well,							
	no water was retrieved to collect and fill sample bottles. See well development form & field notes							

End Purge Time: N/A

Water sample: no sample collected **

Time collected: N/A

Total volume of purged water removed: N/A

Physical appearance at start		Physical appearance at sampling	
Color	N/A	Color	N/A
Odor	N/A	Odor	N/A
Sheen/Free Product	N/A	Sheen/Free Product	N/A

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Analytical Parameters:

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

O'Brien & Gere Engineers, Inc.

Low Flow Ground Water Sampling Log

Date	5/31/2018	Personnel	Joe Perry/ John Gardner	Weather	75°F clear
Site Name	Clinton County LF	Evacuation Method	2"00 Bailer (HDPE)	Well #	P-221
Site Location	Morrisonville, NY	Sampling Method	Bailer-no purge	Project #	65982

Well information:

Depth of Well *	106.75	ft.	* Measurements taken from	
Depth to Water *	102.06	ft.	X	Top of Well Casing
Length of Water Column	4.79	ft.		Top of Protective Casing
Depth to Intake *	N/A	ft.		(Other, Specify)

Start Purge Time: * N/A

		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed Time (min)	**Depth To Water (ft)**	**Temperature (celsius)**	**pH (su)**	**Conductivity (ms/cm)**	**ORP (mV)**	**Dissolved Oxygen (mg/l)**	**Turbidity (NTU)**	**Flow Rate (ml/min)**
*								
	* purging of well values was not conducted prior to collection of sample due to low water							
	column and suspected low recharge rates. NYSDEC gave permission to sample P-221 w/PFAS free bailer							

End Purge Time: * N/A

Note: Only PFAs modified 537, VOC 8260, & PAHs + 1,4 Dioxane, 8270 bottles were filled/collected for analytical testing due to low volume wells

Water sample:

Time collected: 955

Total volume of purged water removed: N/A

Physical appearance at start		Physical appearance at sampling	
Color	turbid	Color	clear yellow tint
Odor	none	Odor	none
Sheen/Free Product	none	Sheen/Free Product	none

Field Test Results:

Dissolved ferrous iron:	N/A
Dissolved total iron:	N/A
Dissolved total manganese:	N/A

Field ID: 5-CLI-002-003-02

Analytical Parameters:

Location ID: 5-CLI-002-P-221

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH

Attachment 4

Analytical Laboratory Level II Data Deliverable

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Parsons Engineering Science for ILI

OBGNYA: ILI - Region 5, Clinton County Landfill

5-CLI-002-001

SGS Job Number: JC66973

Sampling Date: 05/29/18

Report to:

O'Brien & Gere Engineers, Inc

scott.tucker@obg.com

ATTN: Scott Tucker

Total number of pages in report: 26

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A. Paul Ioannidis
General Manager

Client Service contact: Kristin Degraw 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

Table of Contents

Sample Summary

Parsons Engineering Science for ILI

Job No: JC66973

OBGNYA: ILI - Region 5, Clinton County Landfill
Project No: 5-CLI-002-001

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC66973-1	05/29/18	14:25	ST	05/30/18	AQ	Ground Water	5-CLI-002-001-01
JC66973-2	05/29/18	17:00	ST	05/30/18	AQ	Equipment Blank	5-CLI-002-001-03
JC66973-3	05/29/18	14:25	ST	05/30/18	AQ	Trip Blank Water	5-CLI-002-001-04

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Parsons Engineering Science for ILI	**Job No**	JC66973
Site:	OBGNYA: ILI - Region 5, Clinton County Landfill	**Report Date**	6/18/2018 10:07:06 A

On 05/30/2018, 2 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC66973 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V4B3422

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67044-1MS, JC67044-3DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for Benzene are outside control limits. High RPD due to low concentration of hit
- JC66973-3 for trans-1,4-Dichloro-2-Butene: Associated CCV outside of control limits high, sample was ND.
- JC66973-3 for Bromoform: Associated CCV outside of control limits high, sample was ND.
- JC66973-3 for Bromomethane: Associated CCV outside of control limits low.
- JC66973-1 for Bromoform: Associated CCV outside of control limits high, sample was ND.
- JC66973-1 for trans-1,4-Dichloro-2-Butene: Associated CCV outside of control limits high, sample was ND.
- JC66973-1 for Bromomethane: Associated CCV outside of control limits low.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** F:OP70362

- The data for EPA 537M BY ID meets quality control requirements.
- JC66973-2: Analysis performed at SGS Orlando, FL.
- JC66973-1: Analysis performed at SGS Orlando, FL.
- JC66973-2 for MeFOSAA: Associated CCV outside of control limits high, sample was ND.
- JC66973-1 for MeFOSAA: Associated CCV outside of control limits high, sample was ND.

MS Semi-volatiles By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP12439A

- All samples were extracted within the recommended method holding time.
- Sample(s) JC66897-15MS, JC66897-15MSD were used as the QC samples indicated.
- Sample(s) JC66973-1 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- JC66973-1: Results confirmed by reextraction outside the holding time.
- JC66973-1 for Naphthalene: Results confirmed by reextraction outside the holding time.
- JC66973-1 for Anthracene: Associated CCV outside of control limits high.
- JC66973-1 for Chrysene: Associated CCV outside of control limits high, sample was ND.
- JC66973-1 for Benzo(g,h,i)perylene: Associated CCV outside of control limits high, sample was ND.

Matrix: AQ **Batch ID:** OP12765A

- The data for SW846 8270D BY SIM meets quality control requirements.
- The following samples were extracted outside of holding time for method SW846 8270D BY SIM: JC66973-1
- JC66973-1: Confirmation run.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** MP7433

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66973-1MS, JC66973-1MSD, JC66973-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Boron, Chromium, Copper, Iron, Manganese are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 6020A

Matrix: AQ **Batch ID:** MP7433A

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66973-1MS, JC66973-1MSD, JC66973-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 7470A

Matrix: AQ **Batch ID:** MP7429

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66897-15MS, JC66897-15MSD were used as the QC samples for metals.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP13774

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66975-1DUP, JC66975-1MS were used as the QC samples for Bromide, Chloride, Sulfate

General Chemistry By Method SM2320 B-11

Matrix:	AQ	Batch ID:	GN81002

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66897-15DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC66973-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2340 C-11

Matrix:	AQ	Batch ID:	GN80755

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66456-3DUP, JC66456-3MS were used as the QC samples for Hardness, Total as CaCO3.

General Chemistry By Method SM2540 C-11

Matrix:	AQ	Batch ID:	GN80775

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66970-3DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix:	AQ	Batch ID:	GP13563

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66975-1DUP, JC66975-1MS, JC66975-1MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM5220 C-11,HACH8000

Matrix:	AQ	Batch ID:	GP13456

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67072-1DUP, JC67072-1MS were used as the QC samples for Chemical Oxygen Demand.

General Chemistry By Method SW846 9060A

Matrix:	AQ	Batch ID:	GP13613

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66975-1MS, JC66975-1MSD were used as the QC samples for Total Organic Carbon.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ **Job No:** JC66973

Site: ILINY: OBGNYA: ILI - Region 5, Clinton County Landfill **Report Date:** 6/13/2018 12:11:24

2 Sample(s) were collected on 05/29/2018 and were received at SGS North America Inc - Orlando on 06/01/2018 properly preserved, at 3.8 Deg. C and intact. These Samples received an SGS Orlando job number of JC66973. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP70362

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) JC66975-1MS, JC66975-1MSD were used as the QC samples indicated.

JC66973-1 for MeFOSAA: Associated CCV outside of control limits high, sample was ND.

JC66973-2 for MeFOSAA: Associated CCV outside of control limits high, sample was ND.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: JC66973
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 05/29/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC66973-1	**5-CLI-002-001-01**					
Perfluorobutanoic acid [a]		19.3	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		35.8	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		45.3	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		139	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		244	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorononanoic acid [a]		4.38	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		4.11	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		36.4	2.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanesulfonic acid [a]		2.59 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		45.6	2.0	1.5	ng/l	EPA 537M BY ID
Anthracene [b]		0.0286 J	0.10	0.020	ug/l	SW846 8270D BY SIM
Benzo(a)anthracene [c]		0.0472 J	0.050	0.023	ug/l	SW846 8270D BY SIM
Naphthalene [d]		0.235 B	0.10	0.029	ug/l	SW846 8270D BY SIM
Phenanthrene [c]		0.0300 J	0.10	0.023	ug/l	SW846 8270D BY SIM
Barium		0.118 J	0.20	0.0013	mg/l	SW846 6010C
Boron		0.0215 J	0.10	0.013	mg/l	SW846 6010C
Chromium		0.0011 J	0.010	0.00085	mg/l	SW846 6010C
Manganese		0.00080 J	0.015	0.00042	mg/l	SW846 6010C
Alkalinity, Total as CaCO3 [e]		251	5.0	1.1	mg/l	SM2320 B-11
Bromide		0.12 J	0.50	0.060	mg/l	EPA 300/SW846 9056A
Chloride		24.5	4.0	0.14	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3		310	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved		393	10	1.8	mg/l	SM2540 C-11
Sulfate		49.4	8.0	2.1	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.8	1.0	0.60	mg/l	SW846 9060A

JC66973-2 **5-CLI-002-001-03**

No hits reported in this sample.

JC66973-3 **5-CLI-002-001-04**

No hits reported in this sample.

(a) Analysis performed at SGS Orlando, FL.
(b) Results confirmed by reextraction outside the holding time. Associated CCV outside of control limits high.
(c) Results confirmed by reextraction outside the holding time.
(d) Results confirmed by reextraction outside the holding time. Results confirmed by reextraction outside the holding time.
(e) Sample was titrated to a final pH of 4.5.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	5-CLI-002-001-01		
Lab Sample ID:	JC66973-1	**Date Sampled:**	05/29/18
Matrix:	AQ - Ground Water	**Date Received:**	05/30/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B82406.D	1	06/02/18 03:12	HT	n/a	n/a	V4B3422
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform [a]	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane [b]	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene [a]	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-001-01		
Lab Sample ID:	JC66973-1	**Date Sampled:**	05/29/18
Matrix:	AQ - Ground Water	**Date Received:**	05/30/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		80-120%
17060-07-0	1,2-Dichloroethane-D4	115%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.58	120	ug/l	J
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.
(b) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-001-01		
Lab Sample ID:	JC66973-1	**Date Sampled:**	05/29/18
Matrix:	AQ - Ground Water	**Date Received:**	05/30/18
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	4M75975.D	1	06/04/18 19:02	AR	06/01/18 15:00	OP12439A	E4M3571
Run #2 [b]	3P68779.D	1	06/14/18 10:25	JB	06/13/18 13:25	OP12765A	E3P3264

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1050 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene [c]	0.0286	0.10	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	0.0472	0.050	0.023	ug/l	J
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene [d]	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene [d]	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene [a]	0.235	0.10	0.029	ug/l	B
85-01-8	Phenanthrene	0.0300	0.10	0.023	ug/l	J
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	94%	75%	29-124%
321-60-8	2-Fluorobiphenyl	76%	60%	23-122%
1718-51-0	Terphenyl-d14	59%	77%	22-130%

(a) Results confirmed by reextraction outside the holding time.
(b) Confirmation run.
(c) Associated CCV outside of control limits high.
(d) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-001-01
Lab Sample ID: JC66973-1
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/29/18
Date Received: 05/30/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15357.D	1	06/12/18 05:00	AFL	06/05/18 16:00	F:OP70362	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	19.3	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	35.8	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	45.3	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	139	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	244	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	4.38	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	4.11	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	36.4	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	2.59	4.0	1.0	ng/l	J
1763-23-1	Perfluorooctanesulfonic acid	45.6	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA [b]	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	91%		30-140%
	13C5-PFPeA	89%		40-140%
	13C5-PFHxA	99%		50-150%
	13C4-PFHpA	100%		50-150%
	13C8-PFOA	118%		50-150%
	13C9-PFNA	119%		50-150%
	13C6-PFDA	105%		50-150%
	13C7-PFUnDA	101%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-001-01		
Lab Sample ID:	JC66973-1	**Date Sampled:**	05/29/18
Matrix:	AQ - Ground Water	**Date Received:**	05/30/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	97%		50-150%
	13C2-PFTeDA	101%		40-150%
	13C3-PFBS	97%		50-150%
	13C3-PFHxS	106%		50-150%
	13C8-PFOS	113%		50-150%
	13C8-FOSA	58%		30-140%
	d3-MeFOSAA	119%		50-150%
	13C2-6:2FTS	119%		50-150%
	13C2-8:2FTS	109%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-001-01
Lab Sample ID: JC66973-1
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/29/18
Date Received: 05/30/18
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	ND	0.0010	0.00033	mg/l	2	06/01/18	06/03/18	ZC	SW846 6020A [3]	SW846 3010A [6]
Barium	0.118 J	0.20	0.0013	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	ND	0.0010	0.00040	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Boron	0.0215 J	0.10	0.013	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	0.0011 J	0.010	0.00085	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	ND	0.010	0.0032	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	ND	0.10	0.032	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	ND	0.0030	0.0026	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	0.00080 J	0.015	0.00042	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	ND	0.00020	0.00013	mg/l	1	06/01/18	06/01/18	DP	SW846 7470A [1]	SW846 7470A [4]
Nickel	ND	0.010	0.0013	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	ND	0.010	0.0066	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	ND	0.0010	0.000047	mg/l	2	06/01/18	06/03/18	ZC	SW846 6020A [3]	SW846 3010A [6]
Zinc	ND	0.020	0.0040	mg/l	1	06/01/18	06/02/18	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA44562
(2) Instrument QC Batch: MA44572
(3) Instrument QC Batch: MA44578
(4) Prep QC Batch: MP7429
(5) Prep QC Batch: MP7433
(6) Prep QC Batch: MP7433A

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-001-01
Lab Sample ID: JC66973-1
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/29/18
Date Received: 05/30/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	251	5.0	1.1	mg/l	1	06/06/18 17:05	MP	SM2320 B-11
Bromide	0.12 J	0.50	0.060	mg/l	1	06/15/18 13:22	KS	EPA 300/SW846 9056A
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	06/06/18 15:01	RP	SM5220 C-11,HACH8000
Chloride	24.5	4.0	0.14	mg/l	2	06/15/18 21:18	KS	EPA 300/SW846 9056A
Hardness, Total as CaCO3	310	4.0	2.5	mg/l	1	06/01/18 11:32	MP	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/07/18 11:30	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	393	10	1.8	mg/l	1	06/01/18 15:35	RC	SM2540 C-11
Sulfate	49.4	8.0	2.1	mg/l	4	06/15/18 21:46	KS	EPA 300/SW846 9056A
Total Organic Carbon	1.8	1.0	0.60	mg/l	1	06/08/18 18:43	CD	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-001-03
Lab Sample ID: JC66973-2
Matrix: AQ - Equipment Blank
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/29/18
Date Received: 05/30/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15358.D	1	06/12/18 05:25	AFL	06/05/18 16:00	F:OP70362	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA [b]	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	104%		30-140%
	13C5-PFPeA	103%		40-140%
	13C5-PFHxA	111%		50-150%
	13C4-PFHpA	115%		50-150%
	13C8-PFOA	140%		50-150%
	13C9-PFNA	131%		50-150%
	13C6-PFDA	115%		50-150%
	13C7-PFUnDA	106%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-001-03		
Lab Sample ID:	JC66973-2	**Date Sampled:**	05/29/18
Matrix:	AQ - Equipment Blank	**Date Received:**	05/30/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	96%		50-150%
	13C2-PFTeDA	94%		40-150%
	13C3-PFBS	108%		50-150%
	13C3-PFHxS	117%		50-150%
	13C8-PFOS	120%		50-150%
	13C8-FOSA	115%		30-140%
	d3-MeFOSAA	137%		50-150%
	13C2-6:2FTS	135%		50-150%
	13C2-8:2FTS	116%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-001-04		
Lab Sample ID:	JC66973-3	**Date Sampled:**	05/29/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/30/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B82405.D	1	06/02/18 02:43	HT	n/a	n/a	V4B3422
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform [a]	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane [b]	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene [a]	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-001-04		
Lab Sample ID:	JC66973-3	**Date Sampled:**	05/29/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/30/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		80-120%
17060-07-0	1,2-Dichloroethane-D4	115%		81-124%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.
(b) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Chain of Custody (SGS Orlando, FL)

GW EB WB

Cooler 1 of 2 PN

CHAIN-OF-CUSTODY / Analytical Request Document JC66973

Section A Laboratory Information	**Section B Client Information**	**COC #:**	**5-CLI-002-001**
Lab Name: SGS - Accutest	Company: Parsons/OBG	**Project Name:**	ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker		
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	**Project Site:**	Clinton County Landfill
Phone: 732-329-0200	Phone: 315-956-6345	**Project Number:**	450619
Email:	Email: Scott.Tucker@obg.com		
Section C Deliverable Requirements	Purchase Order No: 11800693		
Report To: Scott.Tucker@obg.com	TAT - 10 Day		
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	**Section D Additional Information**		
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD			

Preservative codes (for water only):

		Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1, 4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20				
													Preservative code	0	1	0	2	3	1	0	0	3				
												#Bottles		2	3	2	1	1	1	1	1	1				
1	1	~~5-CLI-002-001-MW-108~~ 5-CLI-002-001-P-108	76.1	76.74	5-CLI-002-001-01	5/29/18	1425	--	WG	N	13	N	N	X	X	X	X	X	X	X	X	X				
	2	5-CLI-002-001-FIELDQC	—	—	5-CLI-002-001-02	5/29/18		--	WQ	FB	2			x												
2	3	5-CLI-002-001-FIELDQC	—	—	5-CLI-002-001-03	5/29/18		--	WQ	EB	2			x												
3	4	5-CLI-002-001-FIELDQC	—	—	5-CLI-002-001-04	5/29/18		--	WQ	TB	2				x											
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									

E49 A4 MCO G22T1 19K1 V590 SUB

Special Instructions:

INITIAL ASSESSMENT AQ / B

LABEL VERIFICATION ______

Samplers Name: Joseph L. Kelly	Company: OBG Date/Time: 5-29-18 1800	Relinquished By: [signature]	Company: OBG Date/Time: 5-29-18	Cooler Temp.: 3.9 3.4 Rec'd on Ice: Yes ☑ No ☐	Custody Seals Intact: Yes ☐ No ☐ Samples Intact: Yes ☐ No ☐
Shipment Method: FedEx	Shipment Tracking No: 4377 6316 5166 Date/Time: 5/29/18 1800	Accepted By: [signature]	Company: SGS Date/Time: 5/30/18 945	Cooler Temp.: Rec'd on Ice: Yes ☐ No ☐	Custody Seals Intact: 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):

I:\Parsons-Eng.8653\65982.Inactive-Landfi\N-D\Region_5\LF Documents\Clinton County\Clinton County Landfill\OBG\COC.xlsx

JC66973: Chain of Custody

Page 1 of 3

SGS Sample Receipt Summary

Job Number: JC66973 **Client:** PARSONS **Project:** Clinton County Landfill

Date / Time Received: 5/30/2018 9:45:00 AM **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.9); Cooler 2: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.9); Cooler 2: (3.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☐		☑
3. Condition of sample:	Broken / Leaking		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 216017 pH 12+: 208717 Other: (Specify)

Comments
1) Did not receive sample "5-CLI-002-001-02"
2) -1 1 of 3 VOC vials rec'd broken. We will not screen sample.
3) -2 There is no collection time noted on COC or labels.

SM089-02 Rev. Date 12/1/16

Responded to by: Michelle

Response Date: 5/31

1) Sample was not collected
2) Noted
3) Sample collected at 1700

Per Scott Tucker

JC66973: Chain of Custody
Page 3 of 3

CHAIN OF CUSTODY

SGS

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC66973

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: kristin.degraw@sgs.com E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): ST Phone:

Project Information

Project Name: OBGNYA: ILI - Region 5, Clinton County Landfill
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

LCID537NY21 ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LCID537NY21 ,	LAB USE ONLY
1	5-CLI-002-001-01		5/29/18	2:25:00 PM	ST	AQ	2					2				X	
2	5-CLI-002-001-01		5/29/18	12:00:00 AM	ST	AQ	2					2				X	

Number of preserved Bottles

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 14

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other NYASPB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time: 5-31-18 1700	Received By: 1 FEDEX	Relinquished By: 2 FX	Date Time: 06-01-18	Received By: 2 Corne	09:30	
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4		
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 578 [ ] Intact [ ] Not intact	Preserved where applicable [ ]	On Ice [ ]	Cooler Temp. 3.8	

SGS Sample Receipt Summary

Job Number: JC66973 **Client:** SGSNJ **Project:** OBGNYA

Date / Time Received: 6/1/2018 9:30:00 AM **Delivery Method:** FX **Airbill #'s:** 1001891784660003281100563393517459

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: JORGEC Date: 6/1/2018 9:30:00 AM Reviewer: P.H Date: 6/1/2018

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Parsons Engineering Science for ILI

OBGNYA: ILI - Region 5, Clinton County Landfill

11800693

SGS Job Number: JC67103

Sampling Date: 05/30/18

Report to:

O'Brien & Gere Engineers, Inc

scott.tucker@obg.com

ATTN: Scott Tucker

Total number of pages in report: 39

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A. Paul Ioannidis
General Manager

Client Service contact: Kristin Degraw 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

June 22, 2018

Ms. Sara Weishaupt
Parsons
301 Plainfield Road, Suite 350
Syracuse, NY 13212

Re: SGS North America – Dayton, NJ Job # JC67103 – Reissue

Dear Ms. Weishaupt,

The final report for SGS job number JC67103 has been edited to reflect corrections to the final results. These edits have been incorporated into the attached revised report.

Specifically, the chloride results for samples JC67103-1 and JC67103-2 were revised. The report incorporates the following revisions:

Sample JC67103-1 Chloride was 82.5mg/l now is 85.7mg/l
Sample JC67103-2 Chloride was 65.4mg/l now is 67.3mg/l

Please contact me if I can be of further assistance in this matter.

Sincerely,

Kristin Beebe DeGraw

Project Manager

CONTINUOUS SERVICE IMPROVEMENT!

Our goal is to continuously improve our service to you. Please share your ideas about how we can serve you better at EHS.US.CustomerCare@sgs.com. Your feedback is appreciated!

Table of Contents

Sample Summary

Parsons Engineering Science for ILI

Job No: JC67103

OBGNYA: ILI - Region 5, Clinton County Landfill
Project No: 11800693

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC67103-1	05/30/18	10:55	ST	06/01/18	AQ	Ground Water	5-CLI-002-002-01
JC67103-2	05/30/18	10:50	ST	06/01/18	AQ	Ground Water	5-CLI-002-002-02
JC67103-3	05/30/18	16:00	ST	06/01/18	AQ	Field Blank Water	5-CLI-002-002-03
JC67103-4	05/30/18	17:10	ST	06/01/18	AQ	Equipment Blank	5-CLI-002-002-04
JC67103-5	05/30/18	17:15	ST	06/01/18	AQ	Equipment Blank	5-CLI-002-002-06

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Parsons Engineering Science for ILI	**Job No**	JC67103
Site:	OBGNYA: ILI - Region 5, Clinton County Landfill	**Report Date**	6/20/2018 8:51:36 AM

On 06/01/2018, 4 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC67103 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V2C7081

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC67119-8MS, JC67119-9DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** F:OP70380

- The data for EPA 537M BY ID meets quality control requirements.
- JC67103-4: Analysis performed at SGS Orlando, FL.
- JC67103-3: Analysis performed at SGS Orlando, FL.
- JC67103-5: Analysis performed at SGS Orlando, FL.
- JC67103-1: Analysis performed at SGS Orlando, FL.
- JC67103-2: Analysis performed at SGS Orlando, FL.
- JC67103-2: Analysis performed at SGS Orlando, FL.
- JC67103-1 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.
- JC67103-3 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.
- JC67103-5 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.
- JC67103-4 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

MS Semi-volatiles By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP12503A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66975-1MS, JC66975-1MSD were used as the QC samples indicated.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** MP7450A

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67103-1MS, JC67103-1MSD, JC67103-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Boron, Chromium, Iron, Manganese, Nickel, Zinc are outside control limits for sample MP7450A-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 6020A

Matrix: AQ **Batch ID:** MP7450

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67103-1MS, JC67103-1MSD, JC67103-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Thallium are outside control limits for sample MP7450-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 7470A

Matrix: AQ **Batch ID:** MP7491

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67234-1DUP, JC67234-1MSD, JC67234-1PS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference.
- Matrix Spike Duplicate Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP13774

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66975-1DUP, JC66975-1MS were used as the QC samples for Chloride, Sulfate, Bromide.
- JC67103-2 for Bromide: Peak shape indicates matrix interference and possible positive bias.

General Chemistry By Method SM2320 B-11

Matrix: AQ **Batch ID:** GN81050

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66990-1DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC67103-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC67103-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2340 C-11

Matrix: AQ **Batch ID:** GN81029

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67298-1DUP, JC67298-1MS were used as the QC samples for Hardness, Total as CaCO3.

General Chemistry By Method SM2540 C-11

Matrix:	AQ	Batch ID:	GN80872

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67103-2DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix:	AQ	Batch ID:	GP13563

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66975-1DUP, JC66975-1MS, JC66975-1MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM5220 C-11,HACH8000

Matrix:	AQ	Batch ID:	GP13565

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67298-1DUP, JC67298-1MS were used as the QC samples for Chemical Oxygen Demand.

General Chemistry By Method SW846 9060A

Matrix:	AQ	Batch ID:	GP13684

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67360-1MS, JC67360-1MSD were used as the QC samples for Total Organic Carbon.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ **Job No:** JC67103

Site: ILINY: OBGNYA: ILI - Region 5, Clinton County Landfill **Report Date:** 6/13/2018 3:32:26

4 Sample(s) and 1 Field Blank(s) were collected on 05/30/2018 and were received at SGS North America Inc - Orlando on 06/05/2018 properly preserved, at 2 Deg. C and intact. These Samples received an SGS Orlando job number of JC67103. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP70380

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) JC67103-1MS, JC67162-2DUP were used as the QC samples indicated.

Blank Spike Recovery for Perfluorooctanesulfonic acid was outside control limits. % Recovery was within control limits in JC67103-1MS and JC67162-2DUP.

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate, Perfluorobutanesulfonic acid, Perfluoroheptanesulfonic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonic acid, Perfluorohexanoic acid, Perfluorooctanoic acid, Perfluoropentanoic acid are outside control limits for sample OP70380-DUP. Probable cause is due to sample non-homogeneity.

JC67103-1 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

JC67103-3 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

JC67103-4 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

JC67103-5 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: JC67103
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 05/30/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC67103-1	**5-CLI-002-002-01**					
1,1-Dichloroethane		0.54 J	1.0	0.21	ug/l	SW846 8260C
1,1-Dichloroethene		0.81 J	1.0	0.47	ug/l	SW846 8260C
1,1,1-Trichloroethane		0.71 J	1.0	0.25	ug/l	SW846 8260C
Trichloroethene		1.0	1.0	0.27	ug/l	SW846 8260C
Perfluorobutanoic acid [a]		22.7	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		27.2	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		29.9	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		24.9	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		9.40	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		7.46	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		3.35	2.0	1.0	ng/l	EPA 537M BY ID
Acenaphthene		0.0456 J	0.095	0.023	ug/l	SW846 8270D BY SIM
Naphthalene		0.647	0.095	0.028	ug/l	SW846 8270D BY SIM
1,4-Dioxane		1.03	0.095	0.046	ug/l	SW846 8270D BY SIM
Arsenic		0.00039 J	0.0010	0.00033	mg/l	SW846 6020A
Barium		0.0278 J	0.20	0.0013	mg/l	SW846 6010C
Manganese		0.00060 J	0.015	0.00042	mg/l	SW846 6010C
Nickel		0.0025 J	0.010	0.0013	mg/l	SW846 6010C
Alkalinity, Total as CaCO3 [b]		195	10	2.3	mg/l	SM2320 B-11
Bromide		0.22 J	0.50	0.060	mg/l	EPA 300/SW846 9056A
Chloride		85.7	10	0.35	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3		262	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved		377	10	1.8	mg/l	SM2540 C-11
Sulfate		59.6	10	2.7	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.3	1.0	0.60	mg/l	SW846 9060A
JC67103-2	**5-CLI-002-002-02**					
1,1-Dichloroethene		1.1	1.0	0.47	ug/l	SW846 8260C
Trichloroethene		0.40 J	1.0	0.27	ug/l	SW846 8260C
Perfluorobutanoic acid [a]		24.6	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		47.2	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		63.8	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		131	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		166	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorononanoic acid [a]		4.60	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		10.6	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		20.4	2.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanesulfonic acid [a]		4.44	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		76.2	2.0	1.5	ng/l	EPA 537M BY ID
Acenaphthene		0.0250 J	0.095	0.023	ug/l	SW846 8270D BY SIM
Naphthalene		0.269	0.095	0.028	ug/l	SW846 8270D BY SIM
Arsenic		0.00069 J	0.0010	0.00033	mg/l	SW846 6020A

Summary of Hits

Job Number: JC67103
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 05/30/18

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Barium	0.0572 J	0.20	0.0013	mg/l	SW846 6010C
Manganese	0.0014 J	0.015	0.00042	mg/l	SW846 6010C
Alkalinity, Total as CaCO3 [b]	154	5.0	1.1	mg/l	SM2320 B-11
Bromide [c]	0.57	0.50	0.060	mg/l	EPA 300/SW846 9056A
Chloride	67.3	10	0.35	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3	140	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved	409	10	1.8	mg/l	SM2540 C-11
Sulfate	56.8	10	2.7	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	1.3	1.0	0.60	mg/l	SW846 9060A

JC67103-3 5-CLI-002-002-03

No hits reported in this sample.

JC67103-4 5-CLI-002-002-04

No hits reported in this sample.

JC67103-5 5-CLI-002-002-06

No hits reported in this sample.

(a) Analysis performed at SGS Orlando, FL.
(b) Sample was titrated to a final pH of 4.5.
(c) Peak shape indicates matrix interference and possible positive bias.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 5-CLI-002-002-01
Lab Sample ID: JC67103-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C159475.D	1	06/03/18 17:42	HT	n/a	n/a	V2C7081
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	0.54	1.0	0.21	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	0.81	1.0	0.47	ug/l	J
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-01		
Lab Sample ID:	JC67103-1	**Date Sampled:**	05/30/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	0.71	1.0	0.25	ug/l	J
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	1.0	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		80-120%
17060-07-0	1,2-Dichloroethane-D4	106%		81-124%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	91%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-01
Lab Sample ID: JC67103-1
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68564.D	1	06/05/18 15:04	JB	06/04/18 17:00	OP12503A	E3P3255
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.0456	0.095	0.023	ug/l	J
208-96-8	Acenaphthylene	ND	0.095	0.020	ug/l	
120-12-7	Anthracene	ND	0.095	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.048	0.022	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.048	0.032	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.095	0.041	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.095	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.095	0.032	ug/l	
218-01-9	Chrysene	ND	0.095	0.025	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.095	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.095	0.021	ug/l	
86-73-7	Fluorene	ND	0.095	0.023	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.095	0.036	ug/l	
91-20-3	Naphthalene	0.647	0.095	0.028	ug/l	
85-01-8	Phenanthrene	ND	0.095	0.022	ug/l	
129-00-0	Pyrene	ND	0.095	0.018	ug/l	
123-91-1	1,4-Dioxane	1.03	0.095	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		29-124%
321-60-8	2-Fluorobiphenyl	75%		23-122%
1718-51-0	Terphenyl-d14	82%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-01		
Lab Sample ID:	JC67103-1	**Date Sampled:**	05/30/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15380.D	1	06/12/18 15:04	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	22.7	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	27.2	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	29.9	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	24.9	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	9.40	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	7.46	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	3.35	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid [b]	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	86%		30-140%
	13C5-PFPeA	86%		40-140%
	13C5-PFHxA	95%		50-150%
	13C4-PFHpA	94%		50-150%
	13C8-PFOA	116%		50-150%
	13C9-PFNA	97%		50-150%
	13C6-PFDA	92%		50-150%
	13C7-PFUnDA	81%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-01		
Lab Sample ID:	JC67103-1	**Date Sampled:**	05/30/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	83%		50-150%
	13C2-PFTeDA	89%		40-150%
	13C3-PFBS	90%		50-150%
	13C3-PFHxS	98%		50-150%
	13C8-PFOS	82%		50-150%
	13C8-FOSA	112%		30-140%
	d3-MeFOSAA	82%		50-150%
	13C2-6:2FTS	107%		50-150%
	13C2-8:2FTS	81%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-01
Lab Sample ID: JC67103-1
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	0.00039 J	0.0010	0.00033	mg/l	2	06/02/18	06/03/18	ZC	SW846 6020A [1]	SW846 3010A [4]
Barium	0.0278 J	0.20	0.0013	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	ND	0.0010	0.00040	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Boron	ND	0.10	0.013	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	ND	0.010	0.00085	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	ND	0.010	0.0032	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	ND	0.10	0.032	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	ND	0.0030	0.0026	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	0.00060 J	0.015	0.00042	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	ND	0.00020	0.00013	mg/l	1	06/05/18	06/05/18	DP	SW846 7470A [3]	SW846 7470A [6]
Nickel	0.0025 J	0.010	0.0013	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	ND	0.010	0.0066	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	ND	0.0010	0.000047	mg/l	2	06/02/18	06/03/18	ZC	SW846 6020A [1]	SW846 3010A [4]
Zinc	ND	0.020	0.0040	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA44577
(2) Instrument QC Batch: MA44580
(3) Instrument QC Batch: MA44583
(4) Prep QC Batch: MP7450
(5) Prep QC Batch: MP7450A
(6) Prep QC Batch: MP7491

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-002-01
Lab Sample ID: JC67103-1
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	195	10	2.3	mg/l	1	06/07/18 15:49	MP	SM2320 B-11
Bromide	0.22 J	0.50	0.060	mg/l	1	06/15/18 16:39	KS	EPA 300/SW846 9056A
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	06/07/18 12:36	RP	SM5220 C-11,HACH8000
Chloride	85.7	10	0.35	mg/l	5	06/16/18 20:48	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	262	4.0	2.5	mg/l	1	06/07/18 09:27	ST	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/07/18 11:43	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	377	10	1.8	mg/l	1	06/04/18 16:50	RC	SM2540 C-11
Sulfate	59.6	10	2.7	mg/l	5	06/19/18 13:13	KS	EPA 300/SW846 9056A
Total Organic Carbon	1.3	1.0	0.60	mg/l	1	06/12/18 12:31	JO	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-002-02
Lab Sample ID: JC67103-2
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C159476.D	1	06/03/18 18:11	HT	n/a	n/a	V2C7081
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	1.1	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-02
Lab Sample ID: JC67103-2
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	0.40	1.0	0.27	ug/l	J
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		80-120%
17060-07-0	1,2-Dichloroethane-D4	108%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	92%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-02
Lab Sample ID: JC67103-2
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68565.D	1	06/05/18 15:25	JB	06/04/18 17:00	OP12503A	E3P3255
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.0250	0.095	0.023	ug/l	J
208-96-8	Acenaphthylene	ND	0.095	0.020	ug/l	
120-12-7	Anthracene	ND	0.095	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.048	0.022	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.048	0.032	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.095	0.041	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.095	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.095	0.032	ug/l	
218-01-9	Chrysene	ND	0.095	0.025	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.095	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.095	0.021	ug/l	
86-73-7	Fluorene	ND	0.095	0.023	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.095	0.036	ug/l	
91-20-3	Naphthalene	0.269	0.095	0.028	ug/l	
85-01-8	Phenanthrene	ND	0.095	0.022	ug/l	
129-00-0	Pyrene	ND	0.095	0.018	ug/l	
123-91-1	1,4-Dioxane	ND	0.095	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		29-124%
321-60-8	2-Fluorobiphenyl	68%		23-122%
1718-51-0	Terphenyl-d14	73%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-02
Lab Sample ID: JC67103-2
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15382.D	1	06/12/18 16:14	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2 [a]	2Q15421.D	1	06/13/18 12:20	AFL	06/06/18 16:00	F:OP70380	F:S2Q275

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	24.6	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	47.2	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	63.8	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	131	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	166	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	4.60	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	10.6	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	20.4	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	4.44	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	76.2 [b]	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	101%		30-140%
	13C5-PFPeA	104%		40-140%
	13C5-PFHxA	109%		50-150%
	13C4-PFHpA	115%		50-150%
	13C8-PFOA	131%		50-150%
	13C9-PFNA	118%		50-150%
	13C6-PFDA	104%		50-150%
	13C7-PFUnDA	92%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-02		
Lab Sample ID:	JC67103-2	**Date Sampled:**	05/30/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	89%		50-150%
	13C2-PFTeDA	93%		40-150%
	13C3-PFBS	107%		50-150%
	13C3-PFHxS	119%		50-150%
	13C8-PFOS		105%	50-150%
	13C8-FOSA	111%		30-140%
	d3-MeFOSAA	101%		50-150%
	13C2-6:2FTS	127%		50-150%
	13C2-8:2FTS	96%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-02
Lab Sample ID: JC67103-2
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	0.00069 J	0.0010	0.00033	mg/l	2	06/02/18	06/03/18	ZC	SW846 6020A [1]	SW846 3010A [4]
Barium	0.0572 J	0.20	0.0013	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	ND	0.0010	0.00040	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Boron	ND	0.10	0.013	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	ND	0.010	0.00085	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	ND	0.010	0.0032	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	ND	0.10	0.032	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	ND	0.0030	0.0026	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	0.0014 J	0.015	0.00042	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	ND	0.00020	0.00013	mg/l	1	06/05/18	06/05/18	DP	SW846 7470A [3]	SW846 7470A [6]
Nickel	ND	0.010	0.0013	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	ND	0.010	0.0066	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	ND	0.0010	0.000047	mg/l	2	06/02/18	06/03/18	ZC	SW846 6020A [1]	SW846 3010A [4]
Zinc	ND	0.020	0.0040	mg/l	1	06/02/18	06/05/18	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA44577
(2) Instrument QC Batch: MA44580
(3) Instrument QC Batch: MA44583
(4) Prep QC Batch: MP7450
(5) Prep QC Batch: MP7450A
(6) Prep QC Batch: MP7491

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-002-02
Lab Sample ID: JC67103-2
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	154	5.0	1.1	mg/l	1	06/07/18 15:49	MP	SM2320 B-11
Bromide [b]	0.57	0.50	0.060	mg/l	1	06/15/18 17:07	KS	EPA 300/SW846 9056A
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	06/07/18 12:36	RP	SM5220 C-11,HACH8000
Chloride	67.3	10	0.35	mg/l	5	06/16/18 21:16	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	140	4.0	2.5	mg/l	1	06/07/18 09:27	ST	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/07/18 11:44	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	409	10	1.8	mg/l	1	06/04/18 16:50	RC	SM2540 C-11
Sulfate	56.8	10	2.7	mg/l	5	06/19/18 13:41	KS	EPA 300/SW846 9056A
Total Organic Carbon	1.3	1.0	0.60	mg/l	1	06/12/18 12:48	JO	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.
(b) Peak shape indicates matrix interference and possible positive bias.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-002-03
Lab Sample ID: JC67103-3
Matrix: AQ - Field Blank Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15383.D	1	06/12/18 16:39	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid [b]	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	117%		30-140%
	13C5-PFPeA	118%		40-140%
	13C5-PFHxA	120%		50-150%
	13C4-PFHpA	118%		50-150%
	13C8-PFOA	138%		50-150%
	13C9-PFNA	112%		50-150%
	13C6-PFDA	101%		50-150%
	13C7-PFUnDA	90%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-03		
Lab Sample ID:	JC67103-3	**Date Sampled:**	05/30/18
Matrix:	AQ - Field Blank Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	89%		50-150%
	13C2-PFTeDA	94%		40-150%
	13C3-PFBS	114%		50-150%
	13C3-PFHxS	113%		50-150%
	13C8-PFOS	91%		50-150%
	13C8-FOSA	105%		30-140%
	d3-MeFOSAA	83%		50-150%
	13C2-6:2FTS	120%		50-150%
	13C2-8:2FTS	88%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-002-04
Lab Sample ID: JC67103-4
Matrix: AQ - Equipment Blank
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/30/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15384.D	1	06/12/18 17:04	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid [b]	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	108%		30-140%
	13C5-PFPeA	110%		40-140%
	13C5-PFHxA	117%		50-150%
	13C4-PFHpA	114%		50-150%
	13C8-PFOA	137%		50-150%
	13C9-PFNA	121%		50-150%
	13C6-PFDA	113%		50-150%
	13C7-PFUnDA	95%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-04		
Lab Sample ID:	JC67103-4	**Date Sampled:**	05/30/18
Matrix:	AQ - Equipment Blank	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	84%		50-150%
	13C2-PFTeDA	93%		40-150%
	13C3-PFBS	110%		50-150%
	13C3-PFHxS	117%		50-150%
	13C8-PFOS	109%		50-150%
	13C8-FOSA	116%		30-140%
	d3-MeFOSAA	91%		50-150%
	13C2-6:2FTS	122%		50-150%
	13C2-8:2FTS	99%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-06		
Lab Sample ID:	JC67103-5	**Date Sampled:**	05/30/18
Matrix:	AQ - Equipment Blank	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15385.D	1	06/12/18 17:30	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid [b]	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	101%		30-140%
	13C5-PFPeA	103%		40-140%
	13C5-PFHxA	106%		50-150%
	13C4-PFHpA	108%		50-150%
	13C8-PFOA	124%		50-150%
	13C9-PFNA	108%		50-150%
	13C6-PFDA	105%		50-150%
	13C7-PFUnDA	89%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-002-06		
Lab Sample ID:	JC67103-5	**Date Sampled:**	05/30/18
Matrix:	AQ - Equipment Blank	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	74%		50-150%
	13C2-PFTeDA	81%		40-150%
	13C3-PFBS	103%		50-150%
	13C3-PFHxS	110%		50-150%
	13C8-PFOS	104%		50-150%
	13C8-FOSA	101%		30-140%
	d3-MeFOSAA	87%		50-150%
	13C2-6:2FTS	112%		50-150%
	13C2-8:2FTS	93%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Chain of Custody (SGS Orlando, FL)

GW

PN

KDI-052318-197

CHAIN-OF-CUSTODY / Analytical Request Document

JC67103

Section A Laboratory Information	Section B Client Information	COC #:	5-CLI-002-
Lab Name: SGS - Accutest	Company: Parsons/OBG	Project Name:	ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	Project Site:	Clinton County Landfill
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Number:	450619
Phone: 732-329-0200	Phone: 315-956-6345		
Email:	Email: Scott.Tucker@obg.com		
Section C Deliverable Requirements	Purchase Order No: 11800693		
Report To: Scott.Tucker@obg.com	TAT - 10 Day		
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	**Section D Additional Information**		
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD			

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	Modified Method 6010/7470/SM3120 2340C	CCDD 410.4	TOC - 9060A	SO4/CHLORIDES - 300/SM4500	Alkalinity - SM20 2320B	Ammonia 350.1/SM420
										#Bottles			2	3	2	1	1	1	1	1	1
1	5-CLI-002-002-MW-42	106.79	116.79	5-CLI-002-002-01	5-30-18	1035	—	WG	N	13			2	3	2	1	1	1	1	1	1
2	5-CLI-002-002-MW-41	100.38	110.38	5-CLI-002-002-02	5-30-18	1050	—	WG	N	12			2	3	1	1	1	1	1	1	1
3	5-CLI-002-002-Field QC			5-CLI-002-002-03	5-30-18		—	WQ	FB	2			2								
4	5-CLI-002-002-Field QC			5-CLI-002-002-04	5-30-18		—	WQ	EB	2			2								
~~5~~	~~5-CLI-002-002-Field QC~~			~~5-CLI-002-002-05~~	~~5-30-18~~		—	WQ	FB	~~2~~				3							
6	5-CLI-002-002-Field QC			5-CLI-002-002-06	5-30-18		—	WQ	EB	2			2								
7																					
8				INITIAL ASSESSMENT																	
9				LABEL VERIFICATION																	
10																					

E106
A33
G11
G2272
1963
V614

Special Instructions: Sample 5-CLI-002-002-02 ~~does not have~~ Dilly has 1 of 2 1 liter amber glass for PAH + 1,4 Dioxane 8270 SIM.

Sample 5-CLI-002-002-05 does not exist, field team ran out of lab supplied trip blanks.

Samplers Name:	Company:	Relinquished By:	Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
Scott Terry & John Gardner	OBG		OBG	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method:	Shipment Tracking No:	Accepted By:	Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
Fedex	4357 6346 5155	FEDEX		Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
	Date/Time: 5-30-18 1800		Date/Time:		

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

RELINQUISHED BY FEDEX 5-31-18 AT 1000 FEDEX 4357 6346 5155

I:\Parso).8653\65982.Inactive-Landfi\N-D\Region_5\LF Documents\Clinton County\Clinton Co) andfill\OBG\COC_BLANK.xlsx ROC) 2.4 °C 2.2 ID

5.1 5

SGS Sample Receipt Summary

Job Number: JC67103 **Client:** PARSONS **Project:** OBGNYA: ILI - REGION 5, CLINTON COUNTY L

Date / Time Received: 6/1/2018 9:20:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 3: (2.8);

Cooler Temps (Corrected) °C: Cooler 3: (2.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 216017 pH 12+: 208717 Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

SGS Sample Receipt Summary

Job Number: JC67103 **Client:** PARSONS **Project:** OBGNYA: ILI - REGION 5, CLINTON COUNTY L

Date / Time Received: 5/31/2018 10:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 435763465155

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4); Cooler 2: (2.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.4); Cooler 2: (2.2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 216017 pH 12+: 208717 Other: (Specify) _____ _____

Comments
1) -1 & -2 Did not receive PFA volume.
2) Did not receive PFA volume for FB and EB.
3) -2 Limited volume of 1x 1000ml for PAH - 1,4DioxaneSIM

SM089-03
Rev. Date 12/7/17

GW Revised PN

KDI-052318-197

CHAIN-OF-CUSTODY / Analytical Request Document

JC67103

Section A Laboratory Information	Section B Client Information	COC #: 5-CLI-002-002
Lab Name: SGS - Accutest	Company: Parsons/OBG	Project Name: ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Clinton County Landfill
Phone: 732-329-0200	Phone: 315-956-6345	Project Number: 450619
Email:	Email: Scott.Tucker@obg.com	Preservative codes (for water only):
Section C Deliverable Requirements	Purchase Order No: 11800693	
Report To: Scott.Tucker@obg.com	TAT - 10 Day	
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	**Section D Additional Information**	
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD		

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1,4-Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
Preservative code													0	1	0	2	3	1	0	0	3
#Bottles													2	3	2	1	1	1	1	1	1
1	5-CLI-002-002-MW-2R	106.71	107.58	5-CLI-002-002-01	5-30-18	1055	—	WG	N	13			2	3	2	1	1	1	1	1	1
2	5-CLI-002-002-MW-17	100.81	100.85	5-CLI-002-002-02	5-30-18	1050	—	WG	N	12			2	3	1	1	1	1	1	1	1
3	5-CLI-002-002-FieldQC			5-CLI-002-002-03	5-30-18	1600	—	WQ	FB	2			2								
4	5-CLI-002-002-FieldQC			5-CLI-002-002-04	5-30-18	1710	—	WQ	EB	2			2								
5	~~5-CLI-002-002-FieldQC~~			~~5-CLI-002-002-05~~	~~5-30-18~~		—	~~WQ~~	~~TB~~	~~2~~				~~3~~							
6	5-CLI-002-002-FieldQC			5-CLI-002-002-06	5-30-18	1715	—	WQ	EB	2			2								
7																					
8																					
9																					
10																					

Margin notes: 1, 2; SLP 5-30-18; E106 A33 G11 G22T2 1963 V614

INITIAL ASSESSMENT 2A

LABEL VERIFICATION

ALL SAMPLES RECEIVED ... AS APPLICABLE

Special Instructions: SLP Sample 5-CLI-002-002-02 ~~does not have~~ only has 1 of 2 1 Liter amber glass for PAH + 1,4 Dioxane 8270 SIM.
SLP 5-CLI-002-002-05 does not exist, field team ran out of lab supplied trip blanks.

Samplers Name: So: Perry & John Gardner	Company: OBG	Relinquished By: [signature]	Company: OBG	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 5-30-18 1730		Date/Time: 5-30-18 1800	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Fedex	Shipment Tracking No: 4357 6346 5155	Accepted By: FED EX	Company:	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 5-30-18 1800		Date/Time:	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐

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

RELINQUISHED BY FED EX 5-31-18 AT 1000 FED EX 4357 6346 5155 REC' [signature]

I:\Parso...g.8653\65982.Inactive-Landfil\N-D\Region_5\LF Documents\Clinton County\Clinton Co...Landfill\OBG\COC_BLANK.xlsx

2.4 °C 2.2 IR

JC67103: Chain of Custody
Page 4 of 5

GW Revised YN

KDI-052318-197

CHAIN-OF-CUSTODY / Analytical Request Document

JC67103

Section A Laboratory Information	Section B Client Information	COC #: 5-CLI-002-002
Lab Name: SGS - Accutest	Company: Parsons/OBG	Project Name: ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Clinton County Landfill
Phone: 732-329-0200	Phone: 315-956-6345	Project Number: 450619
Email:	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: 11800693

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 Ben Metals 6010/7470/SM2340C	COD 410.4	TOC-9060A	SO4/CHL/BR/TDS - 300/SM2540C	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
# Bottles													2	3	2	1	1	1	1	1	1
1	5-CLI-002-002-MW-212	106.71	107.49	5-CLI-002-002-01	5-30-18	1055	—	WG	N	13			2	3	2	1	1	1	1	1	1
2	5-CLI-002-002-MW-215	100.7	100.8	5-CLI-002-002-02	5-30-18	1050	—	WG	N	12			2	3	1	1	1	1	1	1	1
3	5-CLI-002-002-FieldQC			5-CLI-002-002-03	5-30-18	1600	—	WQ	FB	2			2								
4	5-CLI-002-002-FieldQC			5-CLI-002-002-04	5-30-18	1710	—	WQ	EB	2			2								
5	~~5-CLI-002-002-FieldQC~~			~~5-CLI-002-002-05~~	~~5-30-18~~			~~WQ~~	~~TB~~	~~2~~				~~3~~							
6	5-CLI-002-002-FieldQC			5-CLI-002-002-06	5-30-18	1715	—	WQ	EB	2			2								
7																					
8																					
9																					
10																					

INITIAL ASSESSMENT 2A

LABEL VERIFICATION

ALL SAMPLES RECEIVED ... AS APPLICABLE

E106 A33 G11 G22T2 1963 V614

Special Instructions: Sample 5-CLI-002-002-02 ~~does not have~~ only has 1 of 2 1-liter amber glass for PAH + 1,4-Dioxane 8270 SIM.

FLP 5-CLI-002-002-05 does not exist, field team ran out of lab supplied trip blanks.

Samplers Name:	Company: OBG	Relinquished By:	Company: OBG	Cooler Temp:	Custody Seals Intact: Yes ☐ No ☐
Scott Kelly & John Gardner	Date/Time: 5-30-18 1730		Date/Time: 5-30-18 1800	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method:	Shipment Tracking No: 4357 6346 7785	Accepted By:	Company:	Cooler Temp:	Custody Seals Intact: Yes ☐ No ☐
Fedex	Date/Time: 5-30-18 1830	FED EX	Date/Time:	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐

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

RELINQUISHED BY FED EX 5-31-18 AT 1000 FED EX 4357 6346 5155 REC'

I:\Parsons\65653\65982-Inactive-Landfill\N-D\Region_5\LF Documents\Clinton County\Clinton County Landfill\OBG\COC_BLANK.xlsx

2.4 °C
2.2 IR

JC67103: Chain of Custody
Page 5 of 5

CHAIN OF CUSTODY

SGS

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: JC67103

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: kristin.degraw@sgs.com E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): ST Phone:

Project Information

Project Name: OBGNYA: ILI - Region 5, Clinton County Landfill
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

LCID537NY21 ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	5-CLI-002-002-01		5/30/18	10:55:00 AM	ST	AQ	2					2				X
2	5-CLI-002-002-02		5/30/18	10:50:00 AM	ST	AQ	2					2				X
3	5-CLI-002-002-03		5/30/18	12:00:00 AM	ST	AQ	2					2				X
4	5-CLI-002-002-04		5/30/18	12:00:00 AM	ST	AQ	2					2				X
5	5-CLI-002-002-06		5/30/18	12:00:00 AM	ST	AQ	2					2				X

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 14

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other NYASPB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	6/4/18 1700	1 FED EX	2 Fed Ex		2 06/05/18 915
3		3	4		4
5		5	Custody Seal # 588	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp. 2.0

5.2
5

JC67103: Chain of Custody
Page 1 of 2
SGS Orlando, FL

SGS Sample Receipt Summary

Job Number: JC67103 **Client:** ALNJ **Project:** OBGNYA

Date / Time Received: 6/5/2018 9:15:00 AM **Delivery Method:** FED EX **Airbill #'s:** 1001891710610003281100563393517551

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.6);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 6/5/2018 9:15:00 AM Reviewer: P.H Date: 6/5/2018

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Parsons Engineering Science for ILI

OBGNYA: ILI - Region 5, Clinton County Landfill

450619

SGS Job Number: JC67162

Sampling Date: 05/31/18

Report to:

O'Brien & Gere Engineers, Inc

scott.tucker@obg.com

ATTN: Scott Tucker

Total number of pages in report: **29**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A. Paul Ioannidis
General Manager

Client Service contact: Kristin Degraw 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

Table of Contents

Sample Summary

Parsons Engineering Science for ILI

Job No: JC67162

OBGNYA: ILI - Region 5, Clinton County Landfill
Project No: 450619

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC67162-1	05/31/18	09:20	JP/JG	06/01/18	AQ	Ground Water	5-CLI-002-003-01
JC67162-2	05/31/18	09:55	JP/JG	06/01/18	AQ	Ground Water	5-CLI-002-003-02
JC67162-3	05/31/18	15:00	JP/JG	06/01/18	AQ	Field Blank Water	5-CLI-002-003-03
JC67162-4	05/31/18	09:55	JP/JG	06/01/18	AQ	Trip Blank Water	5-CLI-002-003-04

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Parsons Engineering Science for ILI	**Job No**	JC67162
Site:	OBGNYA: ILI - Region 5, Clinton County Landfill	**Report Date**	6/15/2018 10:30:43 A

On 06/01/2018, 2 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC67162 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V2E6285

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC67177-1MS, JC67177-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC67162-2 for Methylene chloride: Associated CCV outside of control limits high, sample was ND.
- JC67162-4 for Chloroethane: Associated CCV outside of control limits high, sample was ND.
- JC67162-4 for Methylene chloride: Associated CCV outside of control limits high, sample was ND.
- JC67162-1 for 1,1-Dichloroethene: Associated CCV outside of control limits high, sample was ND.
- JC67162-1 for Chloroethane: Associated CCV outside of control limits high, sample was ND.
- JC67162-1 for Methylene chloride: Associated CCV outside of control limits high, sample was ND.
- JC67162-4 for 1,1-Dichloroethene: Associated CCV outside of control limits high, sample was ND.
- JC67162-2 for Chloroethane: Associated CCV outside of control limits high, sample was ND.
- JC67162-2 for 1,1-Dichloroethene: Associated CCV outside of control limits high, sample was ND.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** F:OP70380

- The data for EPA 537M BY ID meets quality control requirements.
- JC67162-2: Analysis performed at SGS Orlando, FL.
- JC67162-3: Analysis performed at SGS Orlando, FL.
- JC67162-1: Analysis performed at SGS Orlando, FL.
- JC67162-1: Analysis performed at SGS Orlando, FL.
- JC67162-2 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.
- JC67162-3 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

MS Semi-volatiles By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP12503A

- All samples were extracted within the recommended method holding time.
- Sample(s) JC66975-1MS, JC66975-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ **Job No:** JC67162

Site: ILINY: OBGNYA: ILI - Region 5, Clinton County Landfill **Report Date:** 6/13/2018 3:47:23

2 Sample(s) and 1 Field Blank(s) were collected on 05/31/2018 and were received at SGS North America Inc - Orlando on 06/05/2018 properly preserved, at 2.4 Deg. C and intact. These Samples received an SGS Orlando job number of JC67162. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP70380

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) JC67103-1MS, JC67162-2DUP were used as the QC samples indicated.

Blank Spike Recovery(s) for Perfluorooctanesulfonic acid are outside control limits. % Recovery was within control limits in JC67103-1MS and JC67162-2DUP.

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate, Perfluorobutanesulfonic acid, Perfluoroheptanesulfonic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonic acid, Perfluorohexanoic acid, Perfluorooctanoic acid, Perfluoropentanoic acid are outside control limits for sample OP70380-DUP. Probable cause is due to sample non-homogeneity.

JC67162-2 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

JC67162-3 for Perfluorooctanesulfonic acid: Associated BS recovery outside control limits.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: JC67162
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 05/31/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC67162-1	**5-CLI-002-003-01**					
Perfluorobutanoic acid [a]		148	9.1	2.3	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		79.8	4.5	1.7	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		63.9	4.5	1.1	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		23.5	2.3	1.1	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		21.5	2.3	1.1	ng/l	EPA 537M BY ID
Perfluorododecanoic acid [a]		1.86 J	4.5	1.7	ng/l	EPA 537M BY ID
Perfluorotetradecanoic acid [a]		1.30 J	4.5	1.1	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		12.2	2.3	1.1	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		6.12	2.3	1.1	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		4.75	2.3	1.7	ng/l	EPA 537M BY ID
6:2 Fluorotelomer sulfonate [a]		4.42 J	9.1	2.3	ng/l	EPA 537M BY ID
1,4-Dioxane		0.114	0.095	0.046	ug/l	SW846 8270D BY SIM
JC67162-2	**5-CLI-002-003-02**					
1,1-Dichloroethane		0.51 J	1.0	0.21	ug/l	SW846 8260C
Total TIC, Volatile		18 J			ug/l	
Perfluorobutanoic acid [a]		35.7	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		58.9	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		75.0	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		141	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		224	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		17.7	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		37.1	2.0	1.0	ng/l	EPA 537M BY ID
6:2 Fluorotelomer sulfonate [a]		4.28 J	8.0	2.0	ng/l	EPA 537M BY ID
Benzo(a)anthracene		0.0474 J	0.050	0.023	ug/l	SW846 8270D BY SIM
Chrysene		0.0382 J	0.10	0.026	ug/l	SW846 8270D BY SIM
Fluoranthene		0.0955 J	0.10	0.022	ug/l	SW846 8270D BY SIM
Fluorene		0.0325 J	0.10	0.025	ug/l	SW846 8270D BY SIM
Naphthalene		0.0578 J	0.10	0.029	ug/l	SW846 8270D BY SIM
Phenanthrene		0.107	0.10	0.023	ug/l	SW846 8270D BY SIM
Pyrene		0.0805 J	0.10	0.019	ug/l	SW846 8270D BY SIM
1,4-Dioxane		0.572	0.10	0.049	ug/l	SW846 8270D BY SIM
JC67162-3	**5-CLI-002-003-03**					
No hits reported in this sample.						
JC67162-4	**5-CLI-002-003-04**					
Toluene		0.53 J	1.0	0.25	ug/l	SW846 8260C

(a) Analysis performed at SGS Orlando, FL.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 5-CLI-002-003-01
Lab Sample ID: JC67162-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/31/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E143594.D	1	06/05/18 18:48	SS	n/a	n/a	V2E6285
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane [a]	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene [a]	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-01		
Lab Sample ID:	JC67162-1	**Date Sampled:**	05/31/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride [a]	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	106%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-003-01
Lab Sample ID: JC67162-1
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/31/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68566.D	1	06/05/18 15:47	JB	06/04/18 17:00	OP12503A	E3P3255
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.095	0.023	ug/l	
208-96-8	Acenaphthylene	ND	0.095	0.020	ug/l	
120-12-7	Anthracene	ND	0.095	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.048	0.022	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.048	0.032	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.095	0.041	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.095	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.095	0.032	ug/l	
218-01-9	Chrysene	ND	0.095	0.025	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.095	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.095	0.021	ug/l	
86-73-7	Fluorene	ND	0.095	0.023	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.095	0.036	ug/l	
91-20-3	Naphthalene	ND	0.095	0.028	ug/l	
85-01-8	Phenanthrene	ND	0.095	0.022	ug/l	
129-00-0	Pyrene	ND	0.095	0.018	ug/l	
123-91-1	1,4-Dioxane	0.114	0.095	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		29-124%
321-60-8	2-Fluorobiphenyl	76%		23-122%
1718-51-0	Terphenyl-d14	84%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-003-01
Lab Sample ID: JC67162-1
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/31/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15386.D	1	06/12/18 17:55	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2 [a]	2Q15423.D	1	06/13/18 13:08	AFL	06/06/18 16:00	F:OP70380	F:S2Q275

	Initial Volume	Final Volume
Run #1	220 ml	1.0 ml
Run #2	220 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	148	9.1	2.3	ng/l	
2706-90-3	Perfluoropentanoic acid	79.8	4.5	1.7	ng/l	
307-24-4	Perfluorohexanoic acid	63.9	4.5	1.1	ng/l	
375-85-9	Perfluoroheptanoic acid	23.5	2.3	1.1	ng/l	
335-67-1	Perfluorooctanoic acid	21.5	2.3	1.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.3	1.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.5	1.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.5	1.1	ng/l	
307-55-1	Perfluorododecanoic acid	1.86	4.5	1.7	ng/l	J
72629-94-8	Perfluorotridecanoic acid	ND	4.5	1.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.30	4.5	1.1	ng/l	J
375-73-5	Perfluorobutanesulfonic acid	12.2	2.3	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	6.12	2.3	1.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.5	1.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	4.75 [b]	2.3	1.7	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.5	1.1	ng/l	
754-91-6	PFOSA	ND	4.5	1.1	ng/l	
2355-31-9	MeFOSAA	ND	23	4.5	ng/l	
2991-50-6	EtFOSAA	ND	23	4.5	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	4.42	9.1	2.3	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	9.1	2.3	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	78%		30-140%
	13C5-PFPeA	88%		40-140%
	13C5-PFHxA	98%		50-150%
	13C4-PFHpA	101%		50-150%
	13C8-PFOA	123%		50-150%
	13C9-PFNA	120%		50-150%
	13C6-PFDA	91%		50-150%
	13C7-PFUnDA	77%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-01		
Lab Sample ID:	JC67162-1	**Date Sampled:**	05/31/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	61%		50-150%
	13C2-PFTeDA	64%		40-150%
	13C3-PFBS	91%		50-150%
	13C3-PFHxS	100%		50-150%
	13C8-PFOS		81%	50-150%
	13C8-FOSA	86%		30-140%
	d3-MeFOSAA	114%		50-150%
	13C2-6:2FTS	116%		50-150%
	13C2-8:2FTS	83%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-02		
Lab Sample ID:	JC67162-2	**Date Sampled:**	05/31/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E143595.D	1	06/05/18 19:17	SS	n/a	n/a	V2E6285
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane [a]	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	0.51	1.0	0.21	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene [a]	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-02		
Lab Sample ID:	JC67162-2	**Date Sampled:**	05/31/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride [a]	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		80-120%
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	106%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	aldehydes	15.44	18	ug/l	J
	Total TIC, Volatile		18	ug/l	J

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-003-02
Lab Sample ID: JC67162-2
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/31/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68567.D	1	06/05/18 16:08	JB	06/04/18 17:00	OP12503A	E3P3255
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	0.0474	0.050	0.023	ug/l	J
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	0.0382	0.10	0.026	ug/l	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	0.0955	0.10	0.022	ug/l	J
86-73-7	Fluorene	0.0325	0.10	0.025	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	0.0578	0.10	0.029	ug/l	J
85-01-8	Phenanthrene	0.107	0.10	0.023	ug/l	
129-00-0	Pyrene	0.0805	0.10	0.019	ug/l	J
123-91-1	1,4-Dioxane	0.572	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		29-124%
321-60-8	2-Fluorobiphenyl	62%		23-122%
1718-51-0	Terphenyl-d14	63%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-003-02
Lab Sample ID: JC67162-2
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 05/31/18
Date Received: 06/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15389.D	1	06/12/18 19:11	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	35.7	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	58.9	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	75.0	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	141	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	224	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	17.7	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	37.1	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid [b]	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	4.28	8.0	2.0	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	83%		30-140%
	13C5-PFPeA	84%		40-140%
	13C5-PFHxA	91%		50-150%
	13C4-PFHpA	90%		50-150%
	13C8-PFOA	103%		50-150%
	13C9-PFNA	96%		50-150%
	13C6-PFDA	76%		50-150%
	13C7-PFUnDA	64%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-02		
Lab Sample ID:	JC67162-2	**Date Sampled:**	05/31/18
Matrix:	AQ - Ground Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	62%		50-150%
	13C2-PFTeDA	71%		40-150%
	13C3-PFBS	86%		50-150%
	13C3-PFHxS	88%		50-150%
	13C8-PFOS	75%		50-150%
	13C8-FOSA	63%		30-140%
	d3-MeFOSAA	65%		50-150%
	13C2-6:2FTS	95%		50-150%
	13C2-8:2FTS	71%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-03		
Lab Sample ID:	JC67162-3	**Date Sampled:**	05/31/18
Matrix:	AQ - Field Blank Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15391.D	1	06/12/18 20:01	AFL	06/06/18 16:00	F:OP70380	F:S2Q275
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid [b]	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	104%		30-140%
	13C5-PFPeA	105%		40-140%
	13C5-PFHxA	111%		50-150%
	13C4-PFHpA	105%		50-150%
	13C8-PFOA	119%		50-150%
	13C9-PFNA	98%		50-150%
	13C6-PFDA	83%		50-150%
	13C7-PFUnDA	71%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-03		
Lab Sample ID:	JC67162-3	**Date Sampled:**	05/31/18
Matrix:	AQ - Field Blank Water	**Date Received:**	06/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	71%		50-150%
	13C2-PFTeDA	77%		40-150%
	13C3-PFBS	102%		50-150%
	13C3-PFHxS	104%		50-150%
	13C8-PFOS	72%		50-150%
	13C8-FOSA	102%		30-140%
	d3-MeFOSAA	71%		50-150%
	13C2-6:2FTS	105%		50-150%
	13C2-8:2FTS	72%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-04		
Lab Sample ID:	JC67162-4	**Date Sampled:**	05/31/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/01/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E143589.D	1	06/05/18 16:26	SS	n/a	n/a	V2E6285
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane [a]	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene [a]	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-003-04		
Lab Sample ID:	JC67162-4	**Date Sampled:**	05/31/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/01/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride [a]	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.53	1.0	0.25	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-120%
17060-07-0	1,2-Dichloroethane-D4	94%		81-124%
2037-26-5	Toluene-D8	105%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Chain of Custody (SGS Orlando, FL)

GW, FB, WTB

L

JC67162

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information	COC #: 5-CLI-002-003
Lab Name: SGS - Accutest	Company: Parsons/OBG	Project Name: ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	Project Site: Clinton County Landfill
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Number: 450619
Phone: 732-329-0200	Phone: 315-956-6345	
Email:	Email: Scott.Tucker@obg.com	

Section C Deliverable Requirements	
Report To: Scott.Tucker@obg.com	Purchase Order No: 11800693
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com; Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	TAT - 10 Day
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD	Section D Additional Information

Preservative codes (for water only):

	#	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1,4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20	
														0	1	0	2	3	1	0	0	3	
												#Bottles		2	3	1	1	1	1	1	1	1	
1	1	5-CLI-002-003-MW-213			5-CLI-002-003-01	5-30-18	0920		WG	N	6	N	N	2	3	1							
2	2	5-CLI-002-003-P-221			5-CLI-002-003-02		0955		WG	N	6			2	3	1							E86
	3	~~5-CLI-002-003-MW-27~~			~~5-CLI-002-003-03~~		~~0950~~																V623
	4	~~5-CLI-002-003-MW-E~~			~~5-CLI-002-003-04~~																		
3	5	5-CLI-002-003-FieldQC			5-CLI-002-003-03	5-31-18	—		WQ	FB	2			2									
4	6	5-CLI-002-003-FieldQC			5-CLI-002-003-04	5-31-18	—		WQ	TB	3				3								
	7																						
	8													INITIAL ASSESSMENT 2B (?)									
	9																						
	10													LABEL VERIFICATION									

Special Instructions: (1) Low volume well, limited set of bottles collected. (2) Field team made Trip blanks using PFAS free DI water supplied by lab, and extra HomL glass w/HCL.

~~(3) Field team does not have lab supplied trip blanks. Extra bottles were shipped 5/30/18. Found damaged trip blank bottles ...~~ SLP 5-31-18

Samplers Name: See Perry / John Gardner	Company: OBG	Relinquished By: [signature]	Company: OBG	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 5-31-18 1735		Date/Time: 5-31-18 1800	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Fedex	Shipment Tracking No: 7812 1571 9184	Accepted By: [signature]	Company: SGS	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 5-31-18 1800		Date/Time: 6/1/18 920	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):

3.4, 2.8

I:\Parso...8653\65982.Inactive-Landfi\N-D\Region_5\LF Documents\Clinton County\Clinton Co...andfill\OBG\COC_BLANK.xlsx

JC67162: Chain of Custody

Page 1 of 4

5.1

5

SGS Sample Receipt Summary

Job Number: JC67103 **Client:** PARSONS **Project:** OBGNYA: ILI - REGION 5, CLINTON COUNTY L

Date / Time Received: 5/31/2018 10:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 435763465155

Cooler Temps (Raw Measured) °C: #Deleted

Cooler Temps (Corrected) °C: #Deleted

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 216017 pH 12+: 208717 Other: (Specify)

Comments #Deleted

SM089-02 Rev. Date 12/1/16

JC67162: Chain of Custody
Page 3 of 4

GW, FB, WTB

Revised　　JC67162

CHAIN-OF-CUSTODY / Analytical Request Document

Section A Laboratory Information	Section B Client Information	COC #: 5-CLI-002-003
Lab Name: SGS - Accutest	Company: Parsons/OBG	Project Name: ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Clinton County Landfill
Phone: 732-329-0200	Phone: 315-956-6345	Project Number: 450619
Email:	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.Kosoewicz@parsons.com; Heather.Fettig@parsons.com

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

Purchase Order No: 11800693

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	Metals	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
										#Bottles			2	3	1	1	1	1	1	1	1
1	5-CLI-002-003-MW-213			5-CLI-002-003-01	5-30-18	0920		WG	N	6	N	N	2	3	1						
2	5-CLI-002-003-P-221			5-CLI-002-003-02	〃	0955		WG	N	6	〃	〃	2	3	1						
3	~~5-CLI-002-003-...~~			~~5-CLI-002-003-03~~	〃	~~0950~~															
4	~~5-CLI-002-003-MUE~~			~~5-CLI-002-003-04~~	〃																
5	5-CLI-002-003-FieldQC			5-CLI-002-003-03	5-31-18	1500		WQ	FB	2			2								
6	5-CLI-002-003-FieldQC			5-CLI-002-003-04	5-31-18	—		WQ	TB	3				3							
7																					
8																					
9																					
10																					

Margin notes: 1, 2, 3, 4; "Dup SAM"; E86; V623

INITIAL ASSESSMENT 2B (JB)

LABEL VERIFICATION

Special Instructions: (1) Low volume well, limited set of bottles collected. (2) Field team made Trip blanks using PFAS free DI water supplied by lab and extra 40mL glass w/HCL.

~~(3) ... does not have lab supplied trip blanks. Extra bottles were shipped 5/31/18 ... found damaged trip blank bottles ...~~

JLP 5-31-18

Samplers Name: Joe Perry / John Gardner	Company: OBG	Relinquished By: [signature]	Company: OBG	Cooler Temp:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 5-31-18 1735		Date/Time: 5-31-18 1800	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method: Fedex	Shipment Tracking No: 7712 1571 9184	Accepted By: [signature]	Company: SGS	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
	Date/Time: 5-31-18 1800		Date/Time: 6/1/18 920	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):

3.4, 2.8

H:\Parso... 8653\65981.Inactive-Landfill\N-D\Region_5\LF Documents\Clinton County\Clinton Co... Landfill\OBG\COC_BLANK.xlsx

JC67162: Chain of Custody
Page 4 of 4

CHAIN OF CUSTODY

SGS

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC67162

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: kristin.degraw@sgs.com E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): JP/JG Phone:

Project Information

Project Name: OBGNYA: ILI - Region 5, Clinton County Landfill
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LCID537NY21	LAB USE ONLY
1	5-CLI-002-003-01		5/31/18	9:20:00 AM	JP/JG	AQ	2					2				X	
2	5-CLI-002-003-02		5/31/18	9:55:00 AM	JP/JG	AQ	2					2				X	
3	5-CLI-002-003-03		5/31/18	12:00:00 AM	JP/JG	AQ	2					2				X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 14

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other NYASPB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

915

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	6-4-18 1700	1 FED EX	2 Fed Ex		4 06/05/18
3	Date Time:	3	4	Date Time:	Received By:
5	Date Time:	5	Custody Seal # 592 ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 2.4

5.2 5

JC67162: Chain of Custody
Page 1 of 2
SGS Orlando, FL

SGS Sample Receipt Summary

Job Number: JC67162 **Client:** ALNJ **Project:** OBGNYA

Date / Time Received: 6/5/2018 9:15:00 AM **Delivery Method:** FED EX **Airbill #'s:** N/A

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 6/5/2018 9:15:00 AM Reviewer: _____ Date: _____

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Parsons Engineering Science for ILI

OBGNYA: ILI - Region 5, Clinton County Landfill

SGS Job Number: JC67360

Sampling Date: 06/01/18

Report to:

O'Brien & Gere Engineers, Inc

scott.tucker@obg.com

ATTN: Scott Tucker

Total number of pages in report: 53

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A. Paul Ioannidis
General Manager

Client Service contact: Kristin Degraw 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

Sections: 1 2 3 4 5

Table of Contents

Sample Summary

Parsons Engineering Science for ILI

Job No: JC67360

OBGNYA: ILI - Region 5, Clinton County Landfill

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC67360-1	06/01/18	09:20	GW	06/05/18	AQ	Ground Water	5-CLI-002-004-01
JC67360-2	06/01/18	09:40	GW	06/05/18	AQ	Ground Water	5-CLI-002-004-02
JC67360-3	06/01/18	15:15	GW	06/05/18	AQ	Ground Water	5-CLI-002-004-03
JC67360-4	06/01/18	17:00	GW	06/05/18	AQ	Ground Water	5-CLI-002-004-04
JC67360-5	06/01/18	19:30	GW	06/05/18	AQ	Equipment Blank	5-CLI-002-004-05
JC67360-6	06/01/18	19:35	GW	06/05/18	AQ	Equipment Blank	5-CLI-002-004-06
JC67360-7	06/01/18	18:00	GW	06/05/18	AQ	Field Blank Water	5-CLI-002-004-07
JC67360-8	06/01/18	19:35	GW	06/05/18	AQ	Trip Blank Water	5-CLI-002-004-08

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Parsons Engineering Science for ILI	**Job No**	JC67360
Site:	OBGNYA: ILI - Region 5, Clinton County Landfill	**Report Date**	6/25/2018 3:16:57 PM

On 06/05/2018, 6 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC67360 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V4B3434

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67467-1MS, JC67467-2DUP were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V4D3814

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC67360-1DUP, JC67360-2MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Chloroform are outside control limits. Outside control limits due to matrix interference.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** F:OP70426

- The data for EPA 537M BY ID meets quality control requirements.
- JC67360-2: Analysis performed at SGS Orlando, FL.
- JC67360-4: Analysis performed at SGS Orlando, FL.
- JC67360-3: Analysis performed at SGS Orlando, FL.
- JC67360-1: Analysis performed at SGS Orlando, FL.
- JC67360-3: Analysis performed at SGS Orlando, FL.
- JC67360-7: Analysis performed at SGS Orlando, FL.
- JC67360-5: Dilution required due to matrix interference (internal standard failure). Analysis performed at SGS Orlando, FL.
- JC67360-5: Analysis performed at SGS Orlando, FL.
- JC67360-6: Analysis performed at SGS Orlando, FL.
- JC67360-4 for MeFOSAA: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC67360-4 for EtFOSAA: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC67360-4 for Perfluorononanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC67360-4 for Perfluorooctanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC67360-4 for 6:2 Fluorotelomer sulfonate: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

MS Semi-volatiles By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP12596A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JC67360-3: Confirmation run for internal standard areas.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** MP7603

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67360-2MS, JC67360-2MSD, JC67360-2SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Boron, Chromium, Copper, Zinc are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 6020A

Matrix: AQ **Batch ID:** MP7603A

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67360-2MS, JC67360-2MSD, JC67360-2SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Thallium, Arsenic are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP7603A-SD1 for Arsenic: Serial dilution indicates possible matrix interference.

Metals Analysis By Method SW846 7470A

Matrix: AQ **Batch ID:** MP7558

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67511-1DUP, JC67511-1MS, JC67511-1MSD were used as the QC samples for metals.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP13963

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67360-2DUP, JC67360-2MS, JC67360-3MSwere used as the QC samples for Chloride, Sulfate, Bromide, Chloride.

General Chemistry By Method SM2320 B-11

Matrix: AQ **Batch ID:** GN81138

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC66897-31DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC67360-4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC67360-3 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC67360-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC67360-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2340 C-11

Matrix: AQ **Batch ID:** GN81029

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67298-1DUP, JC67298-1MS were used as the QC samples for Hardness, Total as CaCO3.

General Chemistry By Method SM2540 C-11

Matrix: AQ **Batch ID:** GN81061

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67360-1DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ **Batch ID:** GP13653

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67294-1DUP, JC67294-1MS, JC67294-1MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM5220 C-11,HACH8000

Matrix: AQ **Batch ID:** GP13565

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67298-1DUP, JC67298-1MS were used as the QC samples for Chemical Oxygen Demand.

Matrix: AQ **Batch ID:** GP13601

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67430-2DUP, JC67430-2MS were used as the QC samples for Chemical Oxygen Demand.

General Chemistry By Method SW846 9060A

Matrix: AQ **Batch ID:** GP13684

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC67360-1MS, JC67360-1MSD were used as the QC samples for Total Organic Carbon.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ **Job No:** JC67360

Site: ILINY: OBGNYA: ILI - Region 5, Clinton County Landfill **Report Date:** 6/25/2018 9:47:23

6 Sample(s) and 1 Field Blank(s) were collected on 06/01/2018 and were received at SGS North America Inc - Orlando on 06/08/2018 properly preserved, at 4 Deg. C and intact. These Samples received an SGS Orlando job number of JC67360. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP70426

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA54783-1MS, FA54783-1MSD were used as the QC samples indicated.

Matrix Spike Duplicate Recovery(s) for Perfluorobutanesulfonic acid are outside control limits. Probable cause is due to matrix interference.

Sample(s) JC67360-4 have surrogates outside control limits.

JC67360-4: Confirmation run for surrogate recoveries.

JC67360-4 for EtFOSAA: Associated ID Standard outside control limits due to matrix interference. Confirmed by

JC67360-4 for 6:2 Fluorotelomer sulfonate: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-4 for MeFOSAA: Associated ID Standard outside control limits due to matrix interference. Confirmed by

JC67360-4 for Perfluorononanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-4 for Perfluorooctanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-4 for 13C2-6:2FTS: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-4 for 13C8-PFOA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-4 for 13C9-PFNA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-4 for d3-MeFOSAA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC67360-5: Dilution required due to matrix interference (internal standard failure).

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: JC67360
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 06/01/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC67360-1	**5-CLI-002-004-01**					
Perfluorobutanoic acid [a]		27.3	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		46.5	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		67.6	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		116	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		66.0	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		3.82	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		11.4	2.0	1.0	ng/l	EPA 537M BY ID
Naphthalene		0.209	0.10	0.029	ug/l	SW846 8270D BY SIM
Barium		0.0354 J	0.20	0.0013	mg/l	SW846 6010C
Chromium		0.0072 J	0.010	0.00085	mg/l	SW846 6010C
Iron		0.249	0.10	0.032	mg/l	SW846 6010C
Manganese		0.0264	0.015	0.00042	mg/l	SW846 6010C
Nickel		0.0085 J	0.010	0.0013	mg/l	SW846 6010C
Zinc		0.0095 J	0.020	0.0040	mg/l	SW846 6010C
Alkalinity, Total as CaCO3 [b]		281	10	2.3	mg/l	SM2320 B-11
Bromide		0.13 J	0.50	0.060	mg/l	EPA 300/SW846 9056A
Chloride		57.1	6.0	0.21	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3		314	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved		405	10	1.8	mg/l	SM2540 C-11
Sulfate		27.7	4.0	1.1	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.5	1.0	0.60	mg/l	SW846 9060A
JC67360-2	**5-CLI-002-004-02**					
Benzene		0.61	0.50	0.17	ug/l	SW846 8260C
Chloroethane		3.0	1.0	0.59	ug/l	SW846 8260C
1,2-Dichloroethane		0.30 J	1.0	0.20	ug/l	SW846 8260C
cis-1,2-Dichloroethene		1.9	1.0	0.50	ug/l	SW846 8260C
4-Methyl-2-pentanone(MIBK)		64.4	5.0	3.0	ug/l	SW846 8260C
Toluene		0.91 J	1.0	0.25	ug/l	SW846 8260C
Total TIC, Volatile		6 J			ug/l	
Perfluorobutanoic acid [a]		33.1	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		56.1	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		72.1	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		55.4	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		5.88	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		19.9	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		4.95	2.0	1.0	ng/l	EPA 537M BY ID
Acenaphthene		0.0444 J	0.10	0.025	ug/l	SW846 8270D BY SIM
Naphthalene		0.360	0.10	0.029	ug/l	SW846 8270D BY SIM
1,4-Dioxane		1.47	0.10	0.049	ug/l	SW846 8270D BY SIM
Arsenic		0.0076	0.0010	0.00033	mg/l	SW846 6020A
Barium		0.182 J	0.20	0.0013	mg/l	SW846 6010C

Summary of Hits

Job Number: JC67360
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 06/01/18

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Iron	3.41	0.10	0.032	mg/l	SW846 6010C
Manganese	0.805	0.015	0.00042	mg/l	SW846 6010C
Nickel	0.0136	0.010	0.0013	mg/l	SW846 6010C
Alkalinity, Total as CaCO3 [b]	356	10	2.3	mg/l	SM2320 B-11
Bromide	0.32 J	0.50	0.060	mg/l	EPA 300/SW846 9056A
Chemical Oxygen Demand	12.5 J	20	6.3	mg/l	SM5220 C-11,HACH8000
Chloride	36.7	6.0	0.21	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3	392	4.0	2.5	mg/l	SM2340 C-11
Nitrogen, Ammonia	0.14 J	0.20	0.14	mg/l	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	459	10	1.8	mg/l	SM2540 C-11
Total Organic Carbon	4.9	1.0	0.60	mg/l	SW846 9060A
JC67360-3 5-CLI-002-004-03					
1,1,1-Trichloroethane	0.33 J	1.0	0.25	ug/l	SW846 8260C
Trichloroethene	0.70 J	1.0	0.27	ug/l	SW846 8260C
Total TIC, Volatile	169.2 J			ug/l	
Perfluorobutanoic acid [a]	13.7	8.3	2.1	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]	19.4	4.2	1.6	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]	35.4	4.2	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]	77.9	2.1	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]	71.1	2.1	1.0	ng/l	EPA 537M BY ID
Perfluorononanoic acid [a]	1.66 J	2.1	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]	7.78	2.1	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]	35.6	2.1	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]	8.89	2.1	1.6	ng/l	EPA 537M BY ID
6:2 Fluorotelomer sulfonate [a]	8.90 J	17	4.2	ng/l	EPA 537M BY ID
Anthracene	0.0266 J	0.10	0.020	ug/l	SW846 8270D BY SIM
Naphthalene	0.0519 J	0.10	0.029	ug/l	SW846 8270D BY SIM
Phenanthrene	0.0692 J	0.10	0.023	ug/l	SW846 8270D BY SIM
Barium	0.105 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.0549 J	0.10	0.013	mg/l	SW846 6010C
Chromium	0.0030 J	0.010	0.00085	mg/l	SW846 6010C
Copper	0.0173	0.010	0.0032	mg/l	SW846 6010C
Iron	0.377	0.10	0.032	mg/l	SW846 6010C
Manganese	0.0144 J	0.015	0.00042	mg/l	SW846 6010C
Nickel	0.0063 J	0.010	0.0013	mg/l	SW846 6010C
Zinc	0.0255	0.020	0.0040	mg/l	SW846 6010C
Alkalinity, Total as CaCO3 [b]	408	10	2.3	mg/l	SM2320 B-11
Chemical Oxygen Demand	163	100	32	mg/l	SM5220 C-11,HACH8000
Chloride	8.7	2.0	0.070	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3	514	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved	530	10	1.8	mg/l	SM2540 C-11
Sulfate	41.6	6.0	1.6	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	41.5	1.0	0.60	mg/l	SW846 9060A

Summary of Hits

Job Number: JC67360
Account: Parsons Engineering Science for ILI
Project: OBGNYA: ILI - Region 5, Clinton County Landfill
Collected: 06/01/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC67360-4	**5-CLI-002-004-04**					
Perfluorobutanoic acid [a]		8.14	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		15.5	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		18.2	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		12.4	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [c]		5.85	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		4.46	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		2.30	2.0	1.0	ng/l	EPA 537M BY ID
Naphthalene		0.438	0.10	0.029	ug/l	SW846 8270D BY SIM
Phenanthrene		0.0604 J	0.10	0.023	ug/l	SW846 8270D BY SIM
1,4-Dioxane		0.0949 J	0.10	0.049	ug/l	SW846 8270D BY SIM
Alkalinity, Total as CaCO3 [b]		138	5.0	1.1	mg/l	SM2320 B-11
Chemical Oxygen Demand		175	100	32	mg/l	SM5220 C-11,HACH8000
Chloride		4.7	2.0	0.070	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3		184	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved		167	10	1.8	mg/l	SM2540 C-11
Sulfate		14.2	2.0	0.53	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		23.3	1.0	0.60	mg/l	SW846 9060A
JC67360-5	**5-CLI-002-004-05**					
No hits reported in this sample.						
JC67360-6	**5-CLI-002-004-06**					
No hits reported in this sample.						
JC67360-7	**5-CLI-002-004-07**					
No hits reported in this sample.						
JC67360-8	**5-CLI-002-004-08**					
Toluene		0.28 J	1.0	0.25	ug/l	SW846 8260C

(a) Analysis performed at SGS Orlando, FL.
(b) Sample was titrated to a final pH of 4.5.
(c) Analysis performed at SGS Orlando, FL. Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	5-CLI-002-004-01		
Lab Sample ID:	JC67360-1	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D87935.D	1	06/07/18 09:51	CSF	n/a	n/a	V4D3814
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-01		
Lab Sample ID:	JC67360-1	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		80-120%
17060-07-0	1,2-Dichloroethane-D4	87%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	4.23	13	ug/l	J
	system artifact	4.27	12	ug/l	J
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-01		
Lab Sample ID:	JC67360-1	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68950.D	1	06/19/18 14:02	AR	06/07/18 08:50	OP12596A	E3P3269
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	0.209	0.10	0.029	ug/l	
85-01-8	Phenanthrene	ND	0.10	0.023	ug/l	
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		29-124%
321-60-8	2-Fluorobiphenyl	64%		23-122%
1718-51-0	Terphenyl-d14	84%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-01
Lab Sample ID: JC67360-1
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15631.D	1	06/19/18 05:39	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	27.3	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	46.5	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	67.6	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	116	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	66.0	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	3.82	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	11.4	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	79%		30-140%
	13C5-PFPeA	82%		40-140%
	13C5-PFHxA	89%		50-150%
	13C4-PFHpA	99%		50-150%
	13C8-PFOA	118%		50-150%
	13C9-PFNA	102%		50-150%
	13C6-PFDA	87%		50-150%
	13C7-PFUnDA	77%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-01		
Lab Sample ID:	JC67360-1	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	75%		50-150%
	13C2-PFTeDA	79%		40-150%
	13C3-PFBS	85%		50-150%
	13C3-PFHxS	97%		50-150%
	13C8-PFOS	87%		50-150%
	13C8-FOSA	83%		30-140%
	d3-MeFOSAA	94%		50-150%
	13C2-6:2FTS	113%		50-150%
	13C2-8:2FTS	73%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-01
Lab Sample ID: JC67360-1
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	ND	0.0010	0.00033	mg/l	2	06/11/18	06/12/18	ZC	SW846 6020A [2]	SW846 3010A [6]
Barium	0.0354 J	0.20	0.0013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Beryllium	ND	0.0010	0.00040	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Boron	ND	0.10	0.013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Chromium	0.0072 J	0.010	0.00085	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Copper	ND	0.010	0.0032	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Iron	0.249	0.10	0.032	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Lead	ND	0.0030	0.0026	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Manganese	0.0264	0.015	0.00042	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Mercury	ND	0.00020	0.00013	mg/l	1	06/08/18	06/08/18	DP	SW846 7470A [1]	SW846 7470A [4]
Nickel	0.0085 J	0.010	0.0013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Selenium	ND	0.010	0.0066	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Thallium	ND	0.0010	0.000047	mg/l	2	06/11/18	06/12/18	ZC	SW846 6020A [2]	SW846 3010A [6]
Zinc	0.0095 J	0.020	0.0040	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: MA44613
(2) Instrument QC Batch: MA44637
(3) Instrument QC Batch: MA44646
(4) Prep QC Batch: MP7558
(5) Prep QC Batch: MP7603
(6) Prep QC Batch: MP7603A

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-004-01
Lab Sample ID: JC67360-1
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	281	10	2.3	mg/l	1	06/08/18 19:25	MP	SM2320 B-11
Bromide	0.13 J	0.50	0.060	mg/l	1	06/22/18 05:01	NV	EPA 300/SW846 9056A
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	06/07/18 12:36	RP	SM5220 C-11,HACH8000
Chloride	57.1	6.0	0.21	mg/l	3	06/23/18 19:07	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	314	4.0	2.5	mg/l	1	06/07/18 09:27	ST	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/11/18 14:28	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	405	10	1.8	mg/l	1	06/07/18 16:00	RC	SM2540 C-11
Sulfate	27.7	4.0	1.1	mg/l	2	06/23/18 19:35	NV	EPA 300/SW846 9056A
Total Organic Carbon	1.5	1.0	0.60	mg/l	1	06/12/18 13:47	JO	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-004-02
Lab Sample ID: JC67360-2
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D87936.D	1	06/07/18 10:19	CSF	n/a	n/a	V4D3814
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	0.61	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	3.0	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	0.30	1.0	0.20	ug/l	J
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.9	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	64.4	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-02
Lab Sample ID: JC67360-2
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.91	1.0	0.25	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		80-120%
17060-07-0	1,2-Dichloroethane-D4	90%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	4.23	13	ug/l	J
	system artifact	4.27	16	ug/l	J
60-29-7	Ethyl ether	7.66	6	ug/l	JN
	Total TIC, Volatile		6	ug/l	J

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-02
Lab Sample ID: JC67360-2
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68951.D	1	06/19/18 14:24	AR	06/07/18 08:50	OP12596A	E3P3269
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.0444	0.10	0.025	ug/l	J
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	0.360	0.10	0.029	ug/l	
85-01-8	Phenanthrene	ND	0.10	0.023	ug/l	
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane	1.47	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		29-124%
321-60-8	2-Fluorobiphenyl	63%		23-122%
1718-51-0	Terphenyl-d14	85%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-02
Lab Sample ID: JC67360-2
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15632.D	1	06/19/18 06:01	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	33.1	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	56.1	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	72.1	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	55.4	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	5.88	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	19.9	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	4.95	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	69%		30-140%
	13C5-PFPeA	71%		40-140%
	13C5-PFHxA	79%		50-150%
	13C4-PFHpA	91%		50-150%
	13C8-PFOA	111%		50-150%
	13C9-PFNA	101%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	81%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-02		
Lab Sample ID:	JC67360-2	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	76%		50-150%
	13C2-PFTeDA	78%		40-150%
	13C3-PFBS	78%		50-150%
	13C3-PFHxS	90%		50-150%
	13C8-PFOS	89%		50-150%
	13C8-FOSA	74%		30-140%
	d3-MeFOSAA	92%		50-150%
	13C2-6:2FTS	108%		50-150%
	13C2-8:2FTS	78%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-02
Lab Sample ID: JC67360-2
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	0.0076	0.0010	0.00033	mg/l	2	06/11/18	06/12/18	ZC	SW846 6020A [2]	SW846 3010A [6]
Barium	0.182 J	0.20	0.0013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Beryllium	ND	0.0010	0.00040	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Boron	ND	0.10	0.013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Chromium	ND	0.010	0.00085	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Copper	ND	0.010	0.0032	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Iron	3.41	0.10	0.032	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Lead	ND	0.0030	0.0026	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Manganese	0.805	0.015	0.00042	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Mercury	ND	0.00020	0.00013	mg/l	1	06/08/18	06/08/18	DP	SW846 7470A [1]	SW846 7470A [4]
Nickel	0.0136	0.010	0.0013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Selenium	ND	0.010	0.0066	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Thallium	ND	0.0010	0.000047	mg/l	2	06/11/18	06/12/18	ZC	SW846 6020A [2]	SW846 3010A [6]
Zinc	ND	0.020	0.0040	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: MA44613
(2) Instrument QC Batch: MA44637
(3) Instrument QC Batch: MA44646
(4) Prep QC Batch: MP7558
(5) Prep QC Batch: MP7603
(6) Prep QC Batch: MP7603A

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-004-02
Lab Sample ID: JC67360-2
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	356	10	2.3	mg/l	1	06/08/18 19:25	MP	SM2320 B-11
Bromide	0.32 J	0.50	0.060	mg/l	1	06/22/18 06:25	NV	EPA 300/SW846 9056A
Chemical Oxygen Demand	12.5 J	20	6.3	mg/l	1	06/07/18 12:36	RP	SM5220 C-11,HACH8000
Chloride	36.7	6.0	0.21	mg/l	3	06/23/18 20:59	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	392	4.0	2.5	mg/l	1	06/07/18 09:27	ST	SM2340 C-11
Nitrogen, Ammonia	0.14 J	0.20	0.14	mg/l	1	06/11/18 14:30	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	459	10	1.8	mg/l	1	06/07/18 16:00	RC	SM2540 C-11
Sulfate	ND	2.0	0.53	mg/l	1	06/22/18 06:25	NV	EPA 300/SW846 9056A
Total Organic Carbon	4.9	1.0	0.60	mg/l	1	06/12/18 14:29	JO	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	5-CLI-002-004-03		
Lab Sample ID:	JC67360-3	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D87937.D	1	06/07/18 10:48	CSF	n/a	n/a	V4D3814
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-03
Lab Sample ID: JC67360-3
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	0.33	1.0	0.25	ug/l	J
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	0.70	1.0	0.27	ug/l	J
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		80-120%
17060-07-0	1,2-Dichloroethane-D4	89%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	4.23	20	ug/l	J
	system artifact	4.27	22	ug/l	J
	system artifact	5.77	6	ug/l	J
	aldehydes	16.69	150	ug/l	J
	alcohols	17.51	10	ug/l	J
	alkane	17.90	9.2	ug/l	J
	Total TIC, Volatile		169.2	ug/l	J

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-03		
Lab Sample ID:	JC67360-3	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68953.D	1	06/19/18 15:07	AR	06/07/18 08:50	OP12596A	E3P3269
Run #2 [a]	3P68636.D	2	06/08/18 16:57	JB	06/07/18 08:50	OP12596A	E3P3258

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	0.0266	0.10	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	0.0519	0.10	0.029	ug/l	J
85-01-8	Phenanthrene	0.0692	0.10	0.023	ug/l	J
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%	68%	29-124%
321-60-8	2-Fluorobiphenyl	68%	69%	23-122%
1718-51-0	Terphenyl-d14	107%	105%	22-130%

(a) Confirmation run for internal standard areas.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-03
Lab Sample ID: JC67360-3
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15633.D	1	06/19/18 06:23	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2 [a]	2Q15676.D	2	06/19/18 22:07	AFL	06/09/18 08:00	F:OP70426	F:S2Q277

	Initial Volume	Final Volume
Run #1	240 ml	1.0 ml
Run #2	240 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	13.7	8.3	2.1	ng/l	
2706-90-3	Perfluoropentanoic acid	19.4	4.2	1.6	ng/l	
307-24-4	Perfluorohexanoic acid	35.4	4.2	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	77.9	2.1	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	71.1	2.1	1.0	ng/l	
375-95-1	Perfluorononanoic acid	1.66	2.1	1.0	ng/l	J
335-76-2	Perfluorodecanoic acid	ND	4.2	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.2	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.2	1.6	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.2	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.2	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	7.78	2.1	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	35.6	2.1	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.2	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	8.89	2.1	1.6	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.2	1.0	ng/l	
754-91-6	PFOSA	ND	4.2	1.0	ng/l	
2355-31-9	MeFOSAA	ND [b]	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	21	4.2	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	8.90 [b]	17	4.2	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.3	2.1	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	84%		30-140%
	13C5-PFPeA	92%		40-140%
	13C5-PFHxA	104%		50-150%
	13C4-PFHpA	112%		50-150%
	13C8-PFOA	134%		50-150%
	13C9-PFNA	134%		50-150%
	13C6-PFDA	92%		50-150%
	13C7-PFUnDA	66%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-03		
Lab Sample ID:	JC67360-3	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	65%		50-150%
	13C2-PFTeDA	80%		40-150%
	13C3-PFBS	93%		50-150%
	13C3-PFHxS	99%		50-150%
	13C8-PFOS	91%		50-150%
	13C8-FOSA	97%		30-140%
	d3-MeFOSAA		146%	50-150%
	13C2-6:2FTS		146%	50-150%
	13C2-8:2FTS	85%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-03
Lab Sample ID: JC67360-3
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	ND	0.0010	0.00033	mg/l	2	06/11/18	06/12/18	ZC	SW846 6020A [2]	SW846 3010A [6]
Barium	0.105 J	0.20	0.0013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Beryllium	ND	0.0010	0.00040	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Boron	0.0549 J	0.10	0.013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Chromium	0.0030 J	0.010	0.00085	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Copper	0.0173	0.010	0.0032	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Iron	0.377	0.10	0.032	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Lead	ND	0.0030	0.0026	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Manganese	0.0144 J	0.015	0.00042	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Mercury	ND	0.00020	0.00013	mg/l	1	06/08/18	06/08/18	DP	SW846 7470A [1]	SW846 7470A [4]
Nickel	0.0063 J	0.010	0.0013	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Selenium	ND	0.010	0.0066	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]
Thallium	ND	0.0010	0.000047	mg/l	2	06/11/18	06/12/18	ZC	SW846 6020A [2]	SW846 3010A [6]
Zinc	0.0255	0.020	0.0040	mg/l	1	06/11/18	06/13/18	ND	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: MA44613
(2) Instrument QC Batch: MA44637
(3) Instrument QC Batch: MA44646
(4) Prep QC Batch: MP7558
(5) Prep QC Batch: MP7603
(6) Prep QC Batch: MP7603A

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 5-CLI-002-004-03
Lab Sample ID: JC67360-3
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	408	10	2.3	mg/l	1	06/08/18 19:25	MP	SM2320 B-11
Bromide	ND	0.50	0.060	mg/l	1	06/22/18 07:21	NV	EPA 300/SW846 9056A
Chemical Oxygen Demand	163	100	32	mg/l	5	06/08/18 11:50	RP	SM5220 C-11,HACH8000
Chloride	8.7	2.0	0.070	mg/l	1	06/22/18 07:21	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	514	4.0	2.5	mg/l	1	06/07/18 09:27	ST	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/11/18 14:34	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	530	10	1.8	mg/l	1	06/07/18 16:00	RC	SM2540 C-11
Sulfate	41.6	6.0	1.6	mg/l	3	06/23/18 22:50	NV	EPA 300/SW846 9056A
Total Organic Carbon	41.5	1.0	0.60	mg/l	1	06/12/18 14:42	JO	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	5-CLI-002-004-04		
Lab Sample ID:	JC67360-4	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B82612.D	1	06/09/18 10:23	HT	n/a	n/a	V4B3434
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-04		
Lab Sample ID:	JC67360-4	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	107%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.56	160	ug/l	J
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-04		
Lab Sample ID:	JC67360-4	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P68952.D	1	06/19/18 14:46	AR	06/07/18 08:50	OP12596A	E3P3269
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	0.438	0.10	0.029	ug/l	
85-01-8	Phenanthrene	0.0604	0.10	0.023	ug/l	J
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane	0.0949	0.10	0.049	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%		29-124%
321-60-8	2-Fluorobiphenyl	47%		23-122%
1718-51-0	Terphenyl-d14	63%		22-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-04
Lab Sample ID: JC67360-4
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15634.D	1	06/19/18 06:45	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2 [b]	2Q15677.D	2	06/19/18 22:29	AFL	06/09/18 08:00	F:OP70426	F:S2Q277

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	8.14	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	15.5	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	18.2	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	12.4	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid [c]	5.85	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid [c]	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	4.46	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	2.30	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA [c]	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA [c]	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate [c]	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	98%	88%	30-140%
	13C5-PFPeA	103%	94%	40-140%
	13C5-PFHxA	120%	109%	50-150%
	13C4-PFHpA	136%	120%	50-150%
	13C8-PFOA	165% [d]	151%	50-150%
	13C9-PFNA	171% [d]	164%	50-150%
	13C6-PFDA	120%	102%	50-150%
	13C7-PFUnDA	102%	89%	50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-04		
Lab Sample ID:	JC67360-4	**Date Sampled:**	06/01/18
Matrix:	AQ - Ground Water	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	87%	77%	50-150%
	13C2-PFTeDA	92%	84%	40-150%
	13C3-PFBS	108%	99%	50-150%
	13C3-PFHxS	124%	114%	50-150%
	13C8-PFOS	128%	125%	50-150%
	13C8-FOSA	136%	122%	30-140%
	d3-MeFOSAA	221% [d]	192%	50-150%
	13C2-6:2FTS	192% [d]	151%	50-150%
	13C2-8:2FTS	102%	76%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Confirmation run for surrogate recoveries. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-04
Lab Sample ID: JC67360-4
Matrix: AQ - Ground Water
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	138	5.0	1.1	mg/l	1	06/08/18 19:25	MP	SM2320 B-11
Bromide	ND	0.50	0.060	mg/l	1	06/22/18 07:49	NV	EPA 300/SW846 9056A
Chemical Oxygen Demand	175	100	32	mg/l	5	06/08/18 11:50	RP	SM5220 C-11,HACH8000
Chloride	4.7	2.0	0.070	mg/l	1	06/22/18 07:49	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	184	4.0	2.5	mg/l	1	06/07/18 09:27	ST	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/11/18 14:35	BM	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	167	10	1.8	mg/l	1	06/07/18 16:00	RC	SM2540 C-11
Sulfate	14.2	2.0	0.53	mg/l	1	06/22/18 07:49	NV	EPA 300/SW846 9056A
Total Organic Carbon	23.3	1.0	0.60	mg/l	1	06/12/18 14:56	JO	SW846 9060A

(a) Sample was titrated to a final pH of 4.5.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	5-CLI-002-004-05		
Lab Sample ID:	JC67360-5	**Date Sampled:**	06/01/18
Matrix:	AQ - Equipment Blank	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15635.D	1	06/19/18 07:07	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2 [b]	2Q15724.D	5	06/20/18 17:18	AFL	06/09/18 08:00	F:OP70426	F:S2Q278

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND [c]	20	5.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND [c]	40	10	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	101%		30-140%
	13C5-PFPeA	101%		40-140%
	13C5-PFHxA	107%		50-150%
	13C4-PFHpA	123%		50-150%
	13C8-PFOA	145%		50-150%
	13C9-PFNA	119%		50-150%
	13C6-PFDA		91%	50-150%
	13C7-PFUnDA	98%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-05		
Lab Sample ID:	JC67360-5	**Date Sampled:**	06/01/18
Matrix:	AQ - Equipment Blank	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	90%		50-150%
	13C2-PFTeDA	80%		40-150%
	13C3-PFBS	103%		50-150%
	13C3-PFHxS	116%		50-150%
	13C8-PFOS	110%		50-150%
	13C8-FOSA	117%		30-140%
	d3-MeFOSAA	123%		50-150%
	13C2-6:2FTS	135%		50-150%
	13C2-8:2FTS		113%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Dilution required due to matrix interference (internal standard failure). Analysis performed at SGS Orlando, FL.
(c) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 5-CLI-002-004-06
Lab Sample ID: JC67360-6
Matrix: AQ - Equipment Blank
Method: EPA 537M BY ID EPA 537 MOD
Project: OBGNYA: ILI - Region 5, Clinton County Landfill

Date Sampled: 06/01/18
Date Received: 06/05/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15636.D	1	06/19/18 07:29	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	100%		30-140%
	13C5-PFPeA	101%		40-140%
	13C5-PFHxA	109%		50-150%
	13C4-PFHpA	119%		50-150%
	13C8-PFOA	133%		50-150%
	13C9-PFNA	121%		50-150%
	13C6-PFDA	113%		50-150%
	13C7-PFUnDA	95%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-06		
Lab Sample ID:	JC67360-6	**Date Sampled:**	06/01/18
Matrix:	AQ - Equipment Blank	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	87%		50-150%
	13C2-PFTeDA	85%		40-150%
	13C3-PFBS	104%		50-150%
	13C3-PFHxS	116%		50-150%
	13C8-PFOS	110%		50-150%
	13C8-FOSA	107%		30-140%
	d3-MeFOSAA	118%		50-150%
	13C2-6:2FTS	125%		50-150%
	13C2-8:2FTS	97%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-07		
Lab Sample ID:	JC67360-7	**Date Sampled:**	06/01/18
Matrix:	AQ - Field Blank Water	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q15637.D	1	06/19/18 07:50	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	96%		30-140%
	13C5-PFPeA	97%		40-140%
	13C5-PFHxA	106%		50-150%
	13C4-PFHpA	112%		50-150%
	13C8-PFOA	127%		50-150%
	13C9-PFNA	111%		50-150%
	13C6-PFDA	96%		50-150%
	13C7-PFUnDA	77%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-07		
Lab Sample ID:	JC67360-7	**Date Sampled:**	06/01/18
Matrix:	AQ - Field Blank Water	**Date Received:**	06/05/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	71%		50-150%
	13C2-PFTeDA	74%		40-150%
	13C3-PFBS	102%		50-150%
	13C3-PFHxS	115%		50-150%
	13C8-PFOS	97%		50-150%
	13C8-FOSA	105%		30-140%
	d3-MeFOSAA	94%		50-150%
	13C2-6:2FTS	123%		50-150%
	13C2-8:2FTS	76%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-08		
Lab Sample ID:	JC67360-8	**Date Sampled:**	06/01/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D87943.D	1	06/07/18 14:11	CSF	n/a	n/a	V4D3814
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	5-CLI-002-004-08		
Lab Sample ID:	JC67360-8	**Date Sampled:**	06/01/18
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/05/18
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-95-3	Methylene bromide	ND	1.0	0.45	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.19	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.28	1.0	0.25	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
	m,p-Xylene	ND	1.0	0.43	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		80-120%
17060-07-0	1,2-Dichloroethane-D4	91%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	4.23	8	ug/l	J
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Chain of Custody (SGS Orlando, FL)

GW EB WB

Cooler 1 of 3 L

CHAIN-OF-CUSTODY / Analytical Request Document

JC67360

Section A Laboratory Information	Section B Client Information	COC #: 5-CLI-002-004
Lab Name: SGS - Accutest	Company: Parsons/OBG	Project Name: ILI - Region 5
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site: Clinton County Landfill
Phone: 732-329-0200	Phone: 315-956-6345	Project Number: 450619
Email:	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: 11800693

TAT - 10 Day

Section D Additional Information

		Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1,4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
		Preservative codes (for water only):												0	1	0	2	3	1	0	0	3
												#Bottles		2	3	2	1	1	1	1	1	1
1	1	5-CLI-002-004-MW-E	154.25	155.23	5-CLI-002-004-01	6-1-2018	0920		WG	N	13	N	N	2	3	2	X	X	X	X	X	X
2	2	5-CLI-002-004-MW-C2	150.71	150.95	5-CLI-002-004-02	6-1-2018	0940		WG	N	13	〃	〃	2	3	2	〃	〃	〃	〃	〃	〃
3	3	5-CLI-002-004-P101	—	—	5-CLI-002-004-03	6-1-2018	1515		WG	N	13	〃	〃	2	3	2	〃	〃	〃	〃	〃	〃
4	4	5-CLI-002-004-MW-220	—	—	5-CLI-002-004-04	6-1-2018	1700		WG	N	13	〃	〃	2	3	2	〃	〃	〃	〃	〃	〃
5	5	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-05	6-1-2018	1930		WQ	EB	2			2								
6	6	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-06	6-1-2018	1935		WQ	EB	2			2								
7	7	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-07	6-1-2018	800		WQ	EB	2			2								
8	8	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-08	6-1-2018	—		WQ	FB	3			X	3							
	9																					
	10																					

Special Instructions: Note(s): 1 — wells P101 & MW-220 were ~~not~~ sampled w/ bailers.
2 Trip Blanks (5-CLI-002-004-08) were created by field staff in field using lab grade PFAS DI water.

3.9 1.4, 1.1

Samplers Name: Joe Perry & John Gardner	Company: OBG / Date/Time: 6-4-2018 1530	Relinquished By: [signature]	Company: OBG / Date/Time: 6-4-2018 1530	Cooler Temp.: / Rec'd on Ice: Yes ☐ No ☐	Custody Seals Intact: Yes ☐ No ☐ / Samples Intact: Yes ☐ No ☐
Shipment Method: Fed-ex	Shipment Tracking No: 7733 8635 2665 / Date/Time: 6-4-2018 Pickup- 1530	Accepted By: [signature]	Company: SGS / Date/Time: 6/5/18 905	Cooler Temp.: / Rec'd on Ice: Yes ☐ No ☐	Custody Seals Intact: 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):

2692

KD1-052318-197

E65 A29 G16 G2273 19C4 V651 SUB

INITIAL ASSESSMENT [initials] 2B

LABEL VERIFICATION ___

I:\Parsc g.8653\65982.Inactive-Landfi\N-D\Region_5\LF Documents\Clinton County\Clinton Cc Landfill\OBG\COC_BLANK.xlsx

5.1 5

JC67360: Chain of Custody
Page 1 of 4

SGS Sample Receipt Summary

Job Number: JC67360 **Client:** PARSONS **Project:** OBGNYA: ILI - REGION 5, CLINTON COUNTY L

Date / Time Received: 6/5/2018 9:05:00 AM **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.9); Cooler 2: (1.4); Cooler 3: (1.7);

Cooler Temps (Corrected) °C: Cooler 1: (3.9); Cooler 2: (1.4); Cooler 3: (1.7);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	3		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 216017 pH 12+: 208717 Other: (Specify)

Comments -8 TB vials rec'd are Non SGS TB's. Samples were filled in the field. Vials did not have labels.

SM089-03
Rev. Date 12/7/17

5.1
5

JC67360: Chain of Custody
Page 2 of 4

Responded to by: CSR: N/A

Response Date: Response Date: 6/5/2018

Response:

Response: Proceed with analysis

GW
EB
WTB

Cooler 1 of 3

L

CHAIN-OF-CUSTODY / Analytical Request Document

JC67360

Section A Laboratory Information	Section B Client Information		
Lab Name: SGS - Accutest	Company: Parsons/OBG	COC #:	5-CLI-002-004
Attention: Tammy Esposito McCloskey	Attention: Scott Tucker	Project Name:	ILI - Region 5
Address: Route 2235 Route 130; Dayton, NJ 08810	Address: 333 West Washington Street, PO Box 4873 Syracuse, NY 13221	Project Site:	Clinton County Landfill
Phone: 732-329-0200	Phone: 315-956-6345	Project Number:	450619
Email:	Email: Scott.Tucker@obg.com		
Section C Deliverable Requirements	Purchase Order No: 11800693		
Report To: Scott.Tucker@obg.com	TAT - 10 Day		
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com	**Section D Additional Information**		
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD			

Preservative codes (for water only):

		Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	PFAS Modified 537	Modified Baseline VOCs - 8260	PAHs + 1, 4 - Dioxane-8270SIM	Mod.Bsln Met/Hard-6010/7470/SM20 2340C	COD 410.4	TOC - 9060A	SO4/CHL/BRO/TDS - 300/SM2540D	Alkalinity - SM20 2320B	Ammonia 350.1/SM20
											Preservative codes			0	1	0	2	3	1	0	0	3
											#Bottles			2	3	2	1	1	1	1	1	1
1	1	5-CLI-002-004-MW-E	154.25	155.23	5-CLI-002-004-01	6-1-2018	0920		WG	N	13	N	N	2	3	2	X	X	X	X	X	X
2	2	5-CLI-002-004-MW-C2	150.71	150.95	5-CLI-002-004-02	6-1-2018	0940		WG	N	13	|	|	2	3	2	|	|	|	|	|	|
3	3	5-CLI-002-004-P101	—	—	5-CLI-002-004-03	6-1-2018	1515		WG	N	13	|	|	2	3	2	|	|	|	|	|	|
4	4	5-CLI-002-004-MW-220	—	—	5-CLI-002-004-04	6-1-2018	1700		WG	N	13	|	|	2	3	2	*	|	|	|	|	|
5	5	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-05	6-1-2018	1930		WQ	EB	2			2								
6	6	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-06	6-1-2018	1935		WQ	EB	2			2								
7	7	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-07	6-1-2018	1800		WQ	EB	2			2								
8	8	5-CLI-002-004-FieldQC	—	—	5-CLI-002-004-08	6-1-2018	—		WQ	FB	3			X	3							
	9																					
	10																					

INITIAL ASSESSMENT JR 2B

LABEL VERIFICATION

Special Instructions: Note(s): 1 — wells P101 & MW-220 were ~~not~~ sampled w/ bailers.
2 Trip Blanks (5-CLI-002-004-08) were created by field staff in field using lab grade PFAS DI water.

* - Discard metals sample

3.9, 1.4, 1.1

Samplers Name:	Company: OBG	Relinquished By: [signature]	Company: OBG	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
Sue Perry & John Gardner	Date/Time: 6-4-2018 1530		Date/Time: 6-4-2018 1530	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Shipment Method:	Shipment Tracking No: 7733 8635 2692	Accepted By: [signature]	Company: SGS	Cooler Temp.:	Custody Seals Intact: Yes ☐ No ☐
FedEx	Date/Time: 6-4-2018 Pickup-1530		Date/Time: 6/5/18 905	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):

2692

E6S
A29
G16
G2273
19C4
V651
SUB

KD1-052318-197

I:\Parsc g.8653\65982.Inactive-Landfi\N-D\Region_5\LF Documents\Clinton County\Clinton Cc .andfill\OBG\COC_BLANK.xlsx

JC67360: Chain of Custody
Page 4 of 4

CHAIN OF CUSTODY

SGS

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC67360

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: kristin.dearaw@sgs.com E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): GW Phone:

Project Information

Project Name: OBGNYA: ILI - Region 5, Clinton County Landfill
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LCID537NY21 .	LAB USE ONLY
1	5-CLI-002-004-01		6/1/18	9:20:00 AM	GW	AQ	2					2				X	
2	5-CLI-002-004-02		6/1/18	9:40:00 AM	GW	AQ	2					2				X	
3	5-CLI-002-004-03		6/1/18	3:15:00 PM	GW	AQ	2					2				X	
4	5-CLI-002-004-04		6/1/18	5:00:00 PM	GW	AQ	2					2				X	
5	5-CLI-002-004-05		6/1/18	7:30:00 PM	GW	AQ	2					2				X	
6	5-CLI-002-004-06		6/1/18	7:35:00 PM	GW	AQ	2					2				X	
7	5-CLI-002-004-07		6/1/18	6:00:00 PM	GW	AQ	2					2				X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 14

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other NYASPB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

INITIAL ASESSMENT
LABEL VERIFICATION

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time: 6-7-18 1700	Received By: 1 FEDEX	Relinquished By: 2 Fed Ex	Date Time:	Received By: 2	915 06/09/18	
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4		
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 399	[ ] Intact [ ] Not Intact	Preserved where applicable [ ]	On Ice [ ]	Cooler Temp. 4.0

5.2
5

JC67360: Chain of Custody
Page 1 of 2
SGS Orlando, FL

SGS Sample Receipt Summary

Job Number: JC67360 **Client:** ALNJ **Project:** OBGNYA

Date / Time Received: 6/8/2018 9:15:00 AM **Delivery Method:** FED EX **Airbill #'s:** 1001891711060003281100563393517665

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 6/8/2018 9:15:00 AM Reviewer: _____ Date: _____