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	

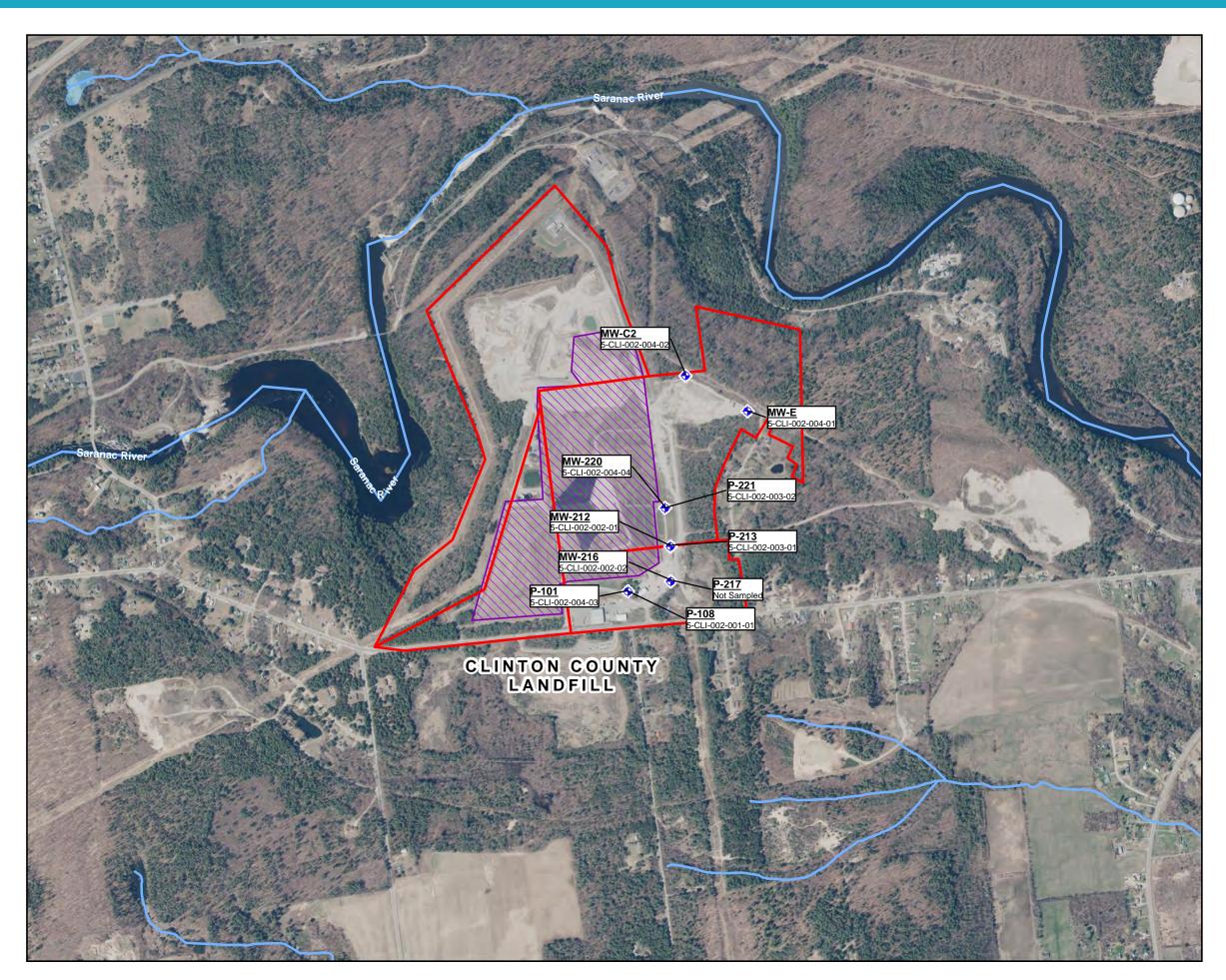
Figures

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







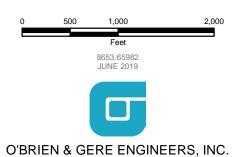
LEGEND

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

NOTE: PARCEL GEOREFERENCED FROM CLINTON COUNTY GIS

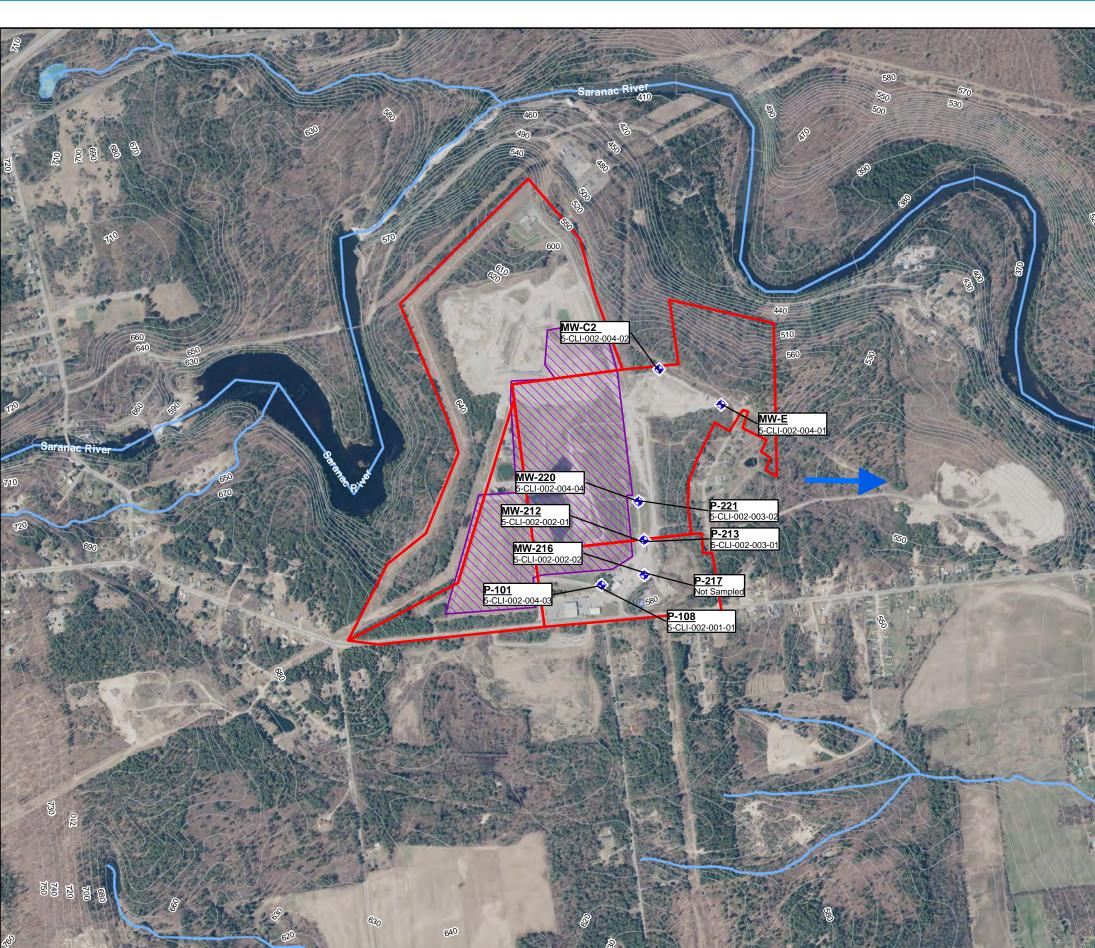
NEW YORK STATE DEPARTMENT OF CONSERVATION CLINTON COUNTY LANDFILL MORRISONVILLE, NEW YORK

SAMPLE LOCATIONS













LEGEND

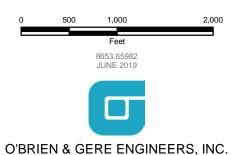
- MONITORING WELL
- TOPOGRAPHIC CONTOURS
- WATER FEATURE
- STIMATED LANDFILL EXTENT
- PARCEL BOUNDARY
- PRESUMED GROUNDWATER FLOW

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



CLINTON COUNTY LANDFILL FIELD ACTIVITIES SUMMARY REPORT

Attachment 1

Clinton County Landfill Work Plan

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

Prepared For:



Department of Environmental Conservation

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

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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:

Bedrock Wells:

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

Lower Till Unit Wells:

- South of current landfill Site
 - o P-101, P-217,
- Southeast of current landfill Site
 - o P-213, P-221,
- East of current landfill Site
 - o MW-C2 (in heart of plume)
 - o 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
Leacha	te Indicators	Inorga	nics
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		

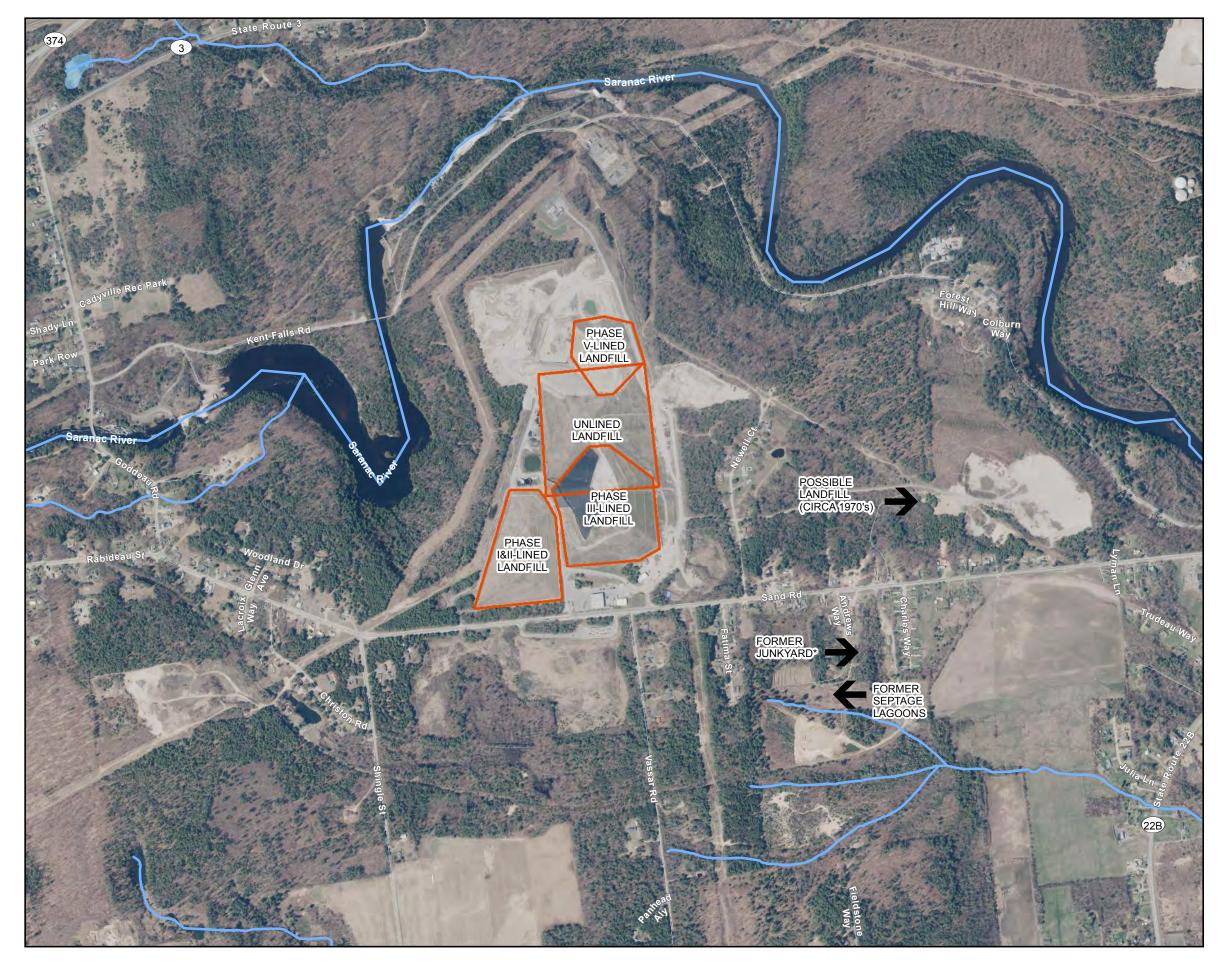
TABLE 1 – ANALYTICAL PARAMETERS (Continued)

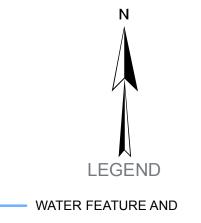
Parameter	Method	Parameter	Method	
	V	olatiles		
Acetone	SW8260C	Ethylbenzene	SW8260C	
Acrylonitrile	SW8260C	2-Hexanone	SW8260C	
Benzene	SW8260C	Bromomethane	SW8260C	
Bromochloromethane	SW8260C	Chloromethane (Methyl chloride)	SW8260C	
Bromodichloromethane	SW8260C	Dibromomethane	SW8260C	
Bromoform	SW8260C	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



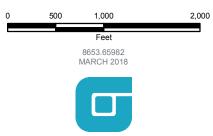




CLINTON COUNTY LANDFILL APPROXIMATE BOUNDARIES

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

HISTORIC ACTIVITY



O'BRIEN & GERE ENGINEERS, INC.



			Site	Stratigraphy		
BARTON & LOGUIDICE (1993)	тніск.	LITH. LOG				
DELTAIC UNIT Medium to fine SAND and SILT.	0-48'		1			
UPPER TILL UNIT Medium to fine SAND, some clayey silt, little coarse to fine gravel. Some cobbles.	2-23'			DELTAIC UNIT Medium to fine SAND and SILT.		
OUTWASH UNIT Coarse to fine SAND and GRAVEL, trace silt.	2-32'	000			0-48'	
MIDDLE TILL UNIT Medium to fine SAND, .ome silt and coarse to fine gravel. Some cobbles. Occasional sand layers. Occasional silt and clay layers.	6-32'			Deltaic Groundwater (perched)	0.40	
Silt and clay layer.	1-7'			UPPER TILL UNIT Medium to fine SAND, some clayey silt, little coarse to fine	2-23'	
COBBLY TILL UNIT Medium to fine SAND, some silt. Frequent cobbles and sandy till layers. Occasional boulders.	0-31'			gravel. Some cobbles.		
LOWER TILL UNIT Fine SAND, some silt. Frequent layers of fine SAND, SILT, and CLAY. Occasional cobbles.	0.24			OUTWASH UNIT Coarse to fine SAND and GRAVEL, trace silt.	2-32'	0.0
	0-34'					

I:\Parsons-Eng.8653\65982.Inactive-Landfi\Docs\DVVG\MXD\Specifc Sites\Region 5\Clinton_County_LF\Fig2_Stratigraphy.mxd

3/8/201



8653.65982 MARCH 2018

SITE STRATIGRAPHY

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

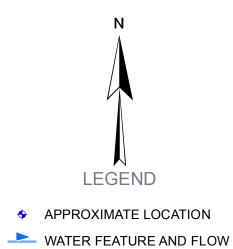








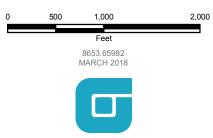




PRESUMED GROUNDWATER FLOW

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

SITE PLAN



O'BRIEN & GERE ENGINEERS, INC.

CLINTON COUNTY LANDFILL FIELD ACTIVITIES SUMMARY REPORT

Attachment 2

Boring and Well Construction Logs

Č	KE.			_	SUBSURFAC		B&L Project	N_244.104		
oject: oject Location:	Former Sand Ro	Schuyler	Falls ((Closed) L	andfill Corrective Measures Investigation	on	Boring Location D	escription:		
ill Rig: sing: il Sampler: mple Hammer: her:	ATV Mo 4-inch 2' Split S Weight: ODEX C	onted Cl Spoon 140 lbs	ME 850	Fall: 30	Finish Date: Contractor:	7/19/2010 7/28/2010 Atlantic Testing Labor Brad Perry Bryce Dingman, Robi		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 Descriptio Soil Classificati	on and	Drilling Details	Well	Completion	
0	1		10/ 2	<u> </u>					4" Steel Protective Casing with Lock 2-inch Dia. Permanent Monitor	
5 	1			11'	Ground Surface <u>3" Topsoll, Roots, Leaves</u> <u>Brown I-m SAND, loose, non-cohesive</u> Brown medium to coarse SAND, loose, mo	ist, non-cohesive	Soil Descriptions from 0*- 108 based on previously completed boring MM-C with Boart Longvear (April 2010) ATL delias to target sampling depth starting on 7/19/10 Soil sampling for MW-C2 starts at 108' on 7/22/10		Well Cement-bentonite g 2" PVC riser 5" temporary double casing to 60".	
			DELTAIC UNIT		Tan fine SAND some Silt, loose, non-cohes Color change to Grey with increase Silt, firm Brown to Grey fine SAND, little medium Sar	a, wet	5			
			DELT		cohesive		5			
					Grey Silt, firm, wet, non-cohesive		MIC			
					Grey SILT with intermittent layers of Brown s slightly plastic		MIC			
	2			20'	Grey fine to medium SAND, loose, wet, non- Leachate-petroleum odor observed		60			
30					Brown SILT, little fine Gravel (subrounded),		W			
35			UNIT		Grey SILT, some Clay, little fine Gravel (sub Sandstone?).		ML			
	3	-			Grey SILT, some Clay and fine to medium G quartz, subrounded), trace Cobbles through plastic, moist to wet	out (3"-5"), slightly	S S S S S S S S S S S S S S S S S S S			



Boring No. MW-C2

B&L Project N 244.104

Project: Project Location: Drill Rig:	Stand 110	au, som	uyierFa	llosed) Land IIs, NY	dfill Corrective Measures Investigation		Boring Location D	Boring Location Description: Northing: 1712802.82 NYSP NAD27				
asing: oil Sampler: ample Hammer: Other:	ATV Mounted CME 850 4-inch 2' Split Spoon Weight: 140 lbs Fall: 30 in. ODEX Casing Adv System				Start Date: 7/19/2010 Finish Date: 7/28/2010 Contractor: Atlantic Testing La Driller: Brad Perry B&L Geologist: Bryce Dingman, Re			Northing: Easting: GS Elevation: TOC Elevation: Total Depth:	1712802.82 NTSP NAD27 692412.93 NYSP NAD27 600.22 AMSL 603.08 PVC Rim 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 (sandstona and quartz, subrounded), trace Cobbles throughout (3*-5*), slightly plastic, moist to wet	GM						
55			OUTWASH UNIT		0.4" lyr Reddish Brown c SAND and little m Gravel (subrounded), Reddish Brown fine SAND some cmf Gravel (subrounded), little Sill from 52.4"-53.0", non-cohesive, dry Slight leachate odor	SW						
60 				3' Lost most of sample down-hole					Cement-bentonite 2" PVC riser			
70			LOWER TILL UNIT		Reddish Brown fine to medium SAND, fine to medium Gravel (subrounded), moist, non-plastic, hard	SW						
75	5			4'	Grey fine to medium SAND, some coarse SAND and fine to medium Gravel (subrounded), Cobbles, 2"-3", hard, wet Boulder	SW						
<u> </u>	6				Grey fine to medium SAND, some coarse Sand and fine to medium Gravel (subrounded), Cobbles, 2"-3", hard, wet, non- plastic Reddish Brown fine to medium SAND, some fine to medium Gravel, loose, saturated, Possible odor observed, no PID detection	SW SW						
					Brown fine to medium SAND, loose	SW						



SUBSURFACE INVESTIGATION LOG

Boring No. MW-C2

oject: oject Location:	Sand R	Schuyler load, Sch	Falls (0 uyler Fa	losed) Lan	dfill Corrective Measures Investigation Boring Location Description:					
II Rig: sing: il Sampler: mple Hammer: ner:	ATV Mo 4-inch 2' Split Weight	ounted CI	ME 850	Fall: 30 in	Start Date: 7/19/2010 Finish Date: 7/28/2010 Contractor: Atlantic Testing Labora Driller: Brad Perry B&L Geologist: Bryce Dingman, Robin			Northing: 1712802.8 Easting: 692412.9 GS Elevation: 600.22 TOC Elevation: 603.08 Total Depth: 154.65		2 NYSP NAD27 3 NYSP NAD27 AMSL PVC Rim From PVC Rim
Depth (ft)	Sample Number Blows Stratigraphic Unit Recovery (ft)							Drilling Details Well Completion		
	6 Cont			15'	Brown fine to medium SAND, loose	SW I				
90					Brown fine to medium SAND, loose, saturated	SW S				
					Boulder Brown fine SAND, little fine to medium Gravel, loose, moist, no odor	SW				
<u>95</u>					Brown medium to fine SAND, loose, wet					Cement-bentonit 2* PVC riser
						SW				
100	-				Grey medium to fine SAND, loose, saturated, non-stratified	SWI				
	7	-		11' 3' slough	Grey to Brown fine to medium SAND, loose, moist, trace fine Gravel (subrounded), no odor	~				
			LOWER TILL UNIT			SW	Driller encountered refusal, no recovery, assumed Bedrock			
110	S-1	8-32-57- 50/0.4'	LOWER	1.8'	Brown/Tan fine to medium uniform SAND, cross-badding 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			
					Drilling advancement became more difficult, coarse material observed in cuttings No measurable water in borehole		7/21/10 ATL installs ODEX-driven 4* casing to 100', shut down due to weather			
115	S-2	30-34- 54- 50/0.3'		1.5	4* of Brown fine to coarse SAND, some fine Gravel, fractured Sandstone tragments, wel, loose grades to Brown fine SAND AND SILT, moist to wet, firm at 114' Brown medium to coarse SAND, loose, dry	SW-SM	7/22/10 ATL starts sampling at 108', no water in hole prior to sampling			
					3" of Brown medium to coarse SAND, wet, loose, grades to Brown		ATL lost hammer and 40° of rod down- hole, were able to recover but then the			
120	S-3 (7/22/10)	27-44- 65/0.2*		1.4'	3° of Brown medium to boarse Sandy, well rounded, moist medium SAND, little coarse Sand, well rounded, moist at ~119' Tan fine SAND, loose, dry, uniform	SW	therefore ATL cannot advance, End of drilling			
					6° of Tan fine SAND, little Sill, moist, firm, grades to Tan/Brown		7/22/10 ATL pulls all casing to replace lead casing/shoe, End of drilling on 7/23/10			
	S-4 (7/27/10)	68-84- 50/2"		1.2'	fine to medium SAND, loose, dry at 124' Brown-Olive SILT and fine SAND, dense, moist	SM	7/26/10 - Compressor failure, no drilling progress			
					Dark Brown, Reddish tint, fine to medium SAND, dry	SW	7/27/10-Rig down, 2nd rig mob'd to site 7/27/10-ODEX issues, ATL cannot			
					Brown medium SAND, some fine to medium Gravel (subrounded)	SW	retrieve hammer			

Project:			-	_	SUBSURFACE INVESTIGATION LOG		Boring No. <u>MW-C2</u> B&L Project N <u>244.104</u>				
Project Location:	Former Sand R	Schuyler load, Sch	Falls (Cuyler Fa	losed) La	ndfill Corrective Measures Investigation		Boring Location D	escription:		-	
Drill Rig: Casing: Soil Sampler: Sample Hammer: Other:	ATV Me 4-inch 2' Split Weight	ounted CI	ME 850	Fall: 30 ir	Start Date: 7/19/2010 Finish Date: 7/28/2010 Contractor: Atlantic Testing I Driller: Brad Perry B&L Geologist: Bryce Dingman,			Northing: Easting: GS Elevation: TOC Elevation: Total Depth:	1712802.82 692412.93 600.22 603.08 154.65	603.08 PVC Rim	
Depth (ft)	Sample Number	Blows	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well	Completio	on	
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			2	Cement-bentonite grou * PVC riser 36.5' - Top of #00 choke	
140	- S-6	13-41- 74-100	ILL UNIT	2.0'	2* Light Brown SILT, soft, saturated, grades to Light Brown SIL dense, non-plastic, moist-wet at ~139' fine Tan SAND, moist, firm	T, JW				and pack 137° - Top of bentonite iseal 140.1° - Top of #00 choke and 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), loo 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 At ~145', drilling advancement locarme more difficult, broke through possible coble zone from 145'.146.5', cuttings are mostly wet silt and clay (reddish Brown), slightly plastic	se, se,	-			143' - Top of screen #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 ODEX advanced to 153', WL is -146.6' from top of casing, sand has heaved up to 150'.	8				2-in dia. PVC 10-ft length Johnson screen	
	-						End of drilling for day 7/28/10 7/28/10 am - WL in casing is 146'3" from TOC ATL set well on 7/28/10			153 - Bottom of screer	
160						The second					
165				-							
170											



Boring No. MW-E

Project: Former Schuyler Falls (Cli Project Location: Sand Road, Schuyler Falls				sed) Landfill Corrective Measures Investigation	Boring Location Description:				
rill Rig: asing: oil Sampler: ample Hammer: ther:	Compact Roto-Sonic 17-C 4-inch, 7-inch 5 foot soil sampler Weight: N/A Fall: N/A Roto Sonic			Start Date: 4/5/2011 Finish Date: 4/12/2011 Contractor: Aquifer Drilling and	ting, Inc.	Northing: Easting: GS Elevation: TOC Elevation: Total Depth:	1712426.00 NYSP NAD27 693041.54 NYSP NAD27 AMSL 600.76 PVC Rim 178.70 From PVC Rim		
Depth (ft)	Sample Number Stratigraphic Unit Recovery (ft)			Material Description and Soil Classification	Drilling Details	Well Completion			
	0	000	<u> </u>		USCS			4" Steel Protective Casing with Lock 2-inch Dia. Permanent	
0	-	1 1		Ground Surface	T	4/5/2011 - ADT		Monitoring Well	
	1		2.5'	Brown fine to medium SAND, trace fine Gravel, frozen.	SW	commencing drilling		Cement-bentonite gro 2* PVC riser	
5 	2		2.5'	Brown light Tan fine to medium SAND, loose, moist, trace fine Gravel.	SW			7" temporary double casing to 75'	
	3	DELTAIC UNIT	2.5'	Brown to dark Brown medium to coarse SAND, trace fine to medium 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				
15 	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	1.43			
	6/7		4.5'	20-22.5 - Brown-Tan Silty SAND, trace fine Gravel, firm, moist.	SM				
25				22.5'-25' - Grey Silty SAND, dense, moist.	SM				
	8		5'	Grey Silty SAND, little fine to coarse Gravel, dense, wet, trace Clay.	SM				
30 	9	UPPER TILL UNIT	2.5'	Same as above, wet. Increased Clay content observed, slightly plastic	SM-SC				
35	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				



Boring No. MW-E

Former S	Schuvler	Ealla (Ola		Bal Project N 244-104					
Sand Ro	ad, Sch	uyler Falls	sed) Landfill Corrective Measures Investigation		Boring Location Description:				
Compact Roto-Sonic 17-C 4-inch, 7-inch 5 foot soil sampler Weight: N/A Fall: N/A Roto Sonic			Start Date: 4/5/2011 Finish Date: 4/12/2011 Contractor: Aquifer Drilling and	Tes	ting, Inc.	Easting: 6 GS Elevation: TOC Elevation:	12426.00 NYSP NAD27 93041.54 NYSP NAD27 AMSL 500.76 PVC Rim 178.70 From PVC Rim		
Sample Number	Stratigraphic Unit	Recovery (ft)	Material Description and Soil Classification	USCS	Drilling Details	Well Completion			
11		2.5'	Grey, fine, Clayey-SAND, little fine Gravel, trace coarse Gravel, sub-rounded, wet, slightly plastic	sc					
12	T NNIT	3.0'	Same as above, wet, slightly plastic.	sc					
13/14	UPPER TI	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					
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					
16/17	ЧП	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 of 2* PVC riser		
18	OUTWASH UN	ť	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.				
	ŀ		70'-71.5' - Grey medium to fine SAND with little fine to coarse Gravel, saturated.	SW					
19/20		4'	71.5' - 75' - Red and Grey mottled sandy TILL. Fine SAND, little fine to coarse gravel, moist, dense.	SW					
21	WER TILL UNIT	4.5'	moist, firm. 77'-80' - Reddish-Grey fine SAND matrix with little Silt,	SM					
22	ГО	3'	fine Gravel, wet. Last 6-inches of boring was through cobbles.	SW					
	4-inch, 7 5 foot so Weight: Roto Sou aquiny e 111 12 13/14 15 16/17 18 18 19/20 21	4-inch, 7-inch 5 foot soil sampl Weight: N/A Roto Sonic Jaquin Judget Jaquin Jaquin Judget Jaquin Jaquin	4-inch, 7-inch 5 foot soil sampler Veight: N/A Fall: N/A PagumN output PagumN pagumN PagumN pagumN PagumN pagumN PagumN pagumN PagumN pagumN PagumN pagumN	4-indth, 7-indth Finish Date: 4/12/2011 5 ford soll asompler Fail: N/A Fail: N/A Chris Stratton 7 ford soll asompler Fail: N/A Date: Aquifer Onling and Onling Andrew Andr	4-indth, 7-indth Finish Date: 4/1/22011 5 foot soli sampler Contractor: Aquifer Dolling and Tes Rolo Sonic BåL Geologist: Bryce Dingman 9 9 Material Description and Soil Classification 9 11 9 9 9 9 11 2.57 Orey, free. Clayey-SAND, little fine Gravel, tace coarse Gravel, sub-builded, wel, slightly plastic 9 12 13 2.57 Orey, free. Clayey-SAND, little fine Gravel, tace coarse Gravel, sub-builded, wel, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 5.07 Same as above, wet, slightly plastic 9 13/14 4.5	4-inch, 7-inch File: 4/122011 Stott sai sampler 4/122011 Weight: N/A Fall: N/A Dott Some Contraction: Add Cologist: Bryce Digman Differ: Contraction: Differ:<	4-ind, 7-ind, 3-ind, 5-ind, index in the Date: 4/12/2011 Easting: 6 5-ind sol ample: Finish Date: 4/12/2011 Description: Description: Tot is intrained. Tot is intrained.		



Boring No. MW-E

Project: Former Schuyler		der E. P.			B&L Project N244.104				
Project Location: Drill Rig: Casing:	Compa	act Rot	o-Sonic 1		d) Landfill Corrective Measures Investigation Boring Locatio				
oil Sampler: ample Hammer: other:	5 foot : Weigh Roto S	soil sar t: N/A	1	Finish Date: 4/12/2011	d Tes	sting, Inc.	Northing: Easting: GS Elevation: TOC Elevation: Total Depth:		
Depth (ft)	Sample Number Stratigraphic		Unit Recovery (ft)		uscs	Drilling Details	Well (Completion	
90	23		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				
105 27 100 27 110 110 110 110 110 3.1 115 115		25 3' Bro		Brown fine to medium SAND, little coarse Sand, trace fine to medium Gravel, moist to wet, firm.				Cement-bentonite 2* PVC riser	
			5'	100' to 101' - Brown with Grey motiling 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				
		LOWER TILL UNIT	4	Brown-Tan fine to medium SAND, little fine to medium Gravel, moist to wet, dense. Orange mottling observed from 109' to 100'.	SW				
			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				
		5'	Reddish-Brown fine to medium SAND, trace fine Gravel, moist, very dense. Dark Brown mottling throughout sample.	MS					
			5' 5	Same as above, moist, occasional medium Gravel.	SW				
125	30		5 0	25' to 126.5' - Reddish-Brown fine to medium SAND, trace fine sravel, moist, dense. 126.5' to 130 ' - Brown-Reddish/Brown edium to fine SAND, loose - firm, moist.	SW	24			



Boring No. MW-E

Project: Former Schuyler Falls (Cl Project Location: Sand Road, Schuyler Fall				Closed) Landfill Corrective Measures Investigation		Bal Project N 244.104 Boring Location Description:			
Drill Rig: Casing: Soil Sampler: Sample Hammer: Other:	Comp 4-inch 5 foot Weigh Roto S	act Rot , 7-inch soil san	to-Sonic 17	-C Start Date: 4/5/2011 Finish Date: 4/12/2011 Contractor: 4/12/2011	nd T		Northing: 1712426.00 NYSP NAD27 Easting: 693041.54 NYSP NAD27 GS Elevation: AMSL TOC Elevation: 600.76 PVC Rim Total Depth: 178.70 From PVC Rim		
Depth (ft)	Sample Number Stratigraphic Unit Recovery (ft)		Unit Recovery (ft)	Material Description and Soil Classification	000	Drilling Details	Well Completion		
135	31		3'	130° lo 131° - Tan coarse SAND, loose, wet. 131' to 135' - Rusty Brown fine to medium SAND, dense, moist, trace coarse Gravel.	CIM	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.			
		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.		4/11/2011'- ADT continuing to advance boring.			
145			33 5		5	Tan-Brown with Orange mottling medium to coarse SAND, some t little fine to medium Gravel, moist to wet, firm. 142' to 142.5' - 6" zone of saturation.	SW	-	
	34		2'	Same as above	SW				
			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		Cement-bentonite		
	36	37 3' tra 38-40 4' trac		Light Tan-Brown fine to medium SAND, little fine to medium Gravel, dense, molst, trace Sandstone fragments observed.	SW		2" PVC riser		
160	37			160-163' - Same as above. 163-165' - Brown medium SAND, trace medium Gravel, wet, Grey silt seam observed at bottom of sample.	SW		sand pack 159.9' - Top of bentonite seal 162.2' - Top of #00N choker sand pack		
	38-40			165'-165.5' - Reddish-Brown with Orange mottling Silty SAND, wet, race fine to medium Gravel, angular. 165 5'-167' - Tan Silty SAND with fine to medium Gravel, angular, saturated. 167-170' - Reddish- arown Silty fine SAND, trace fine Gravel, wet.	SM		164' - Top of filter san pack 166' - Top of screen		
	41			rown fine SAND, little medium Sand, trace fine Gravel, wet- aturated.		ADT only had enough sampling rods to go to 175'. ADT will set well at 176'.	#NJ 0N Filter sand pack 2-in dia. PVC 10-ft length continu wire-wrap screen		
175							176 - Bottom of scr		

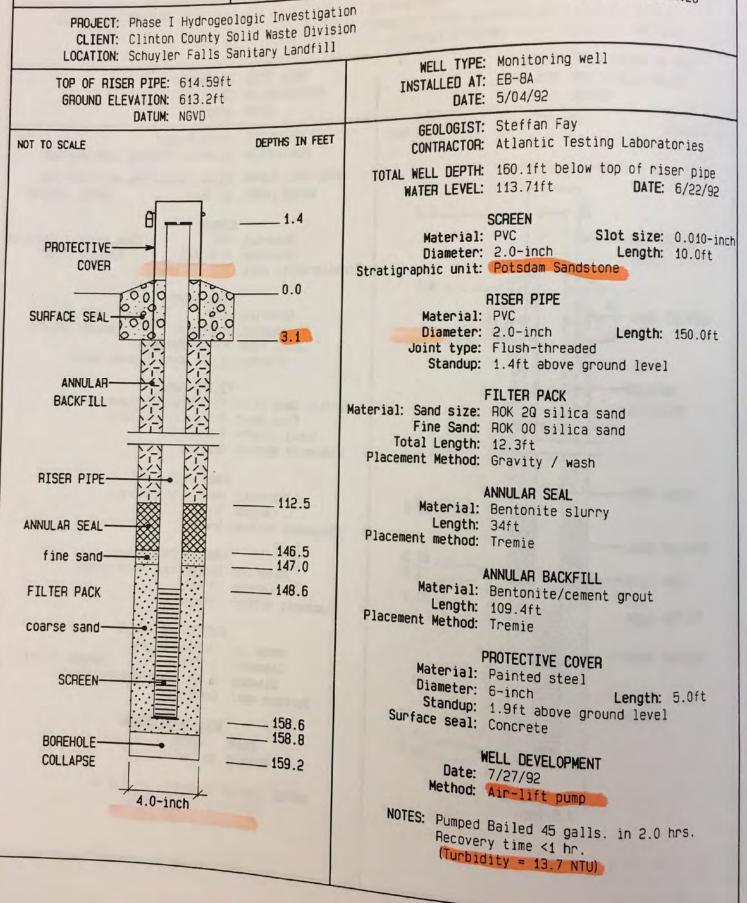
INSTALLATION DETAIL

Well No. MW-212

Sheet 1 of 1

BARTON & LOGUIDICE, P.C.

PROJECT No. 244.26





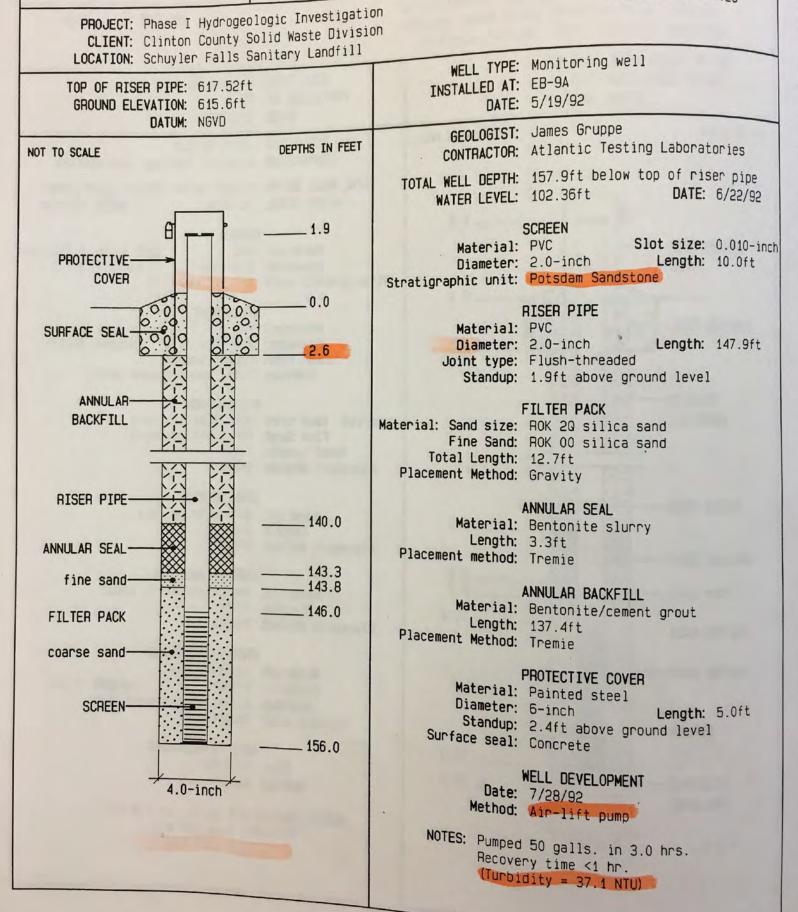
INSTALLATION DETAIL

Well No. MW-216

Sheet 1 of 1

BARTON & LOGUIDICE, P.C.

PROJECT No. 244.26



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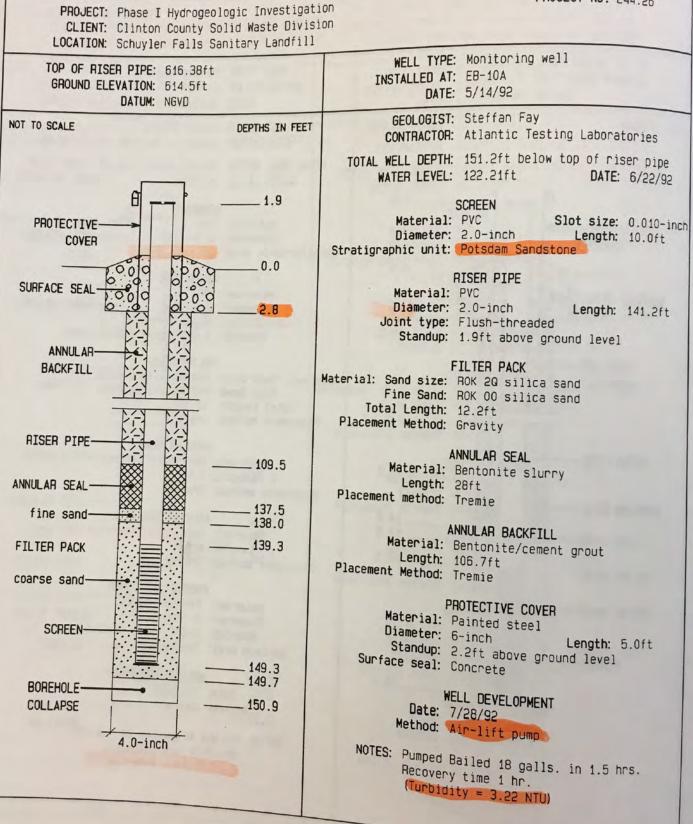
BARTON & LOGUIDICE, P.C.

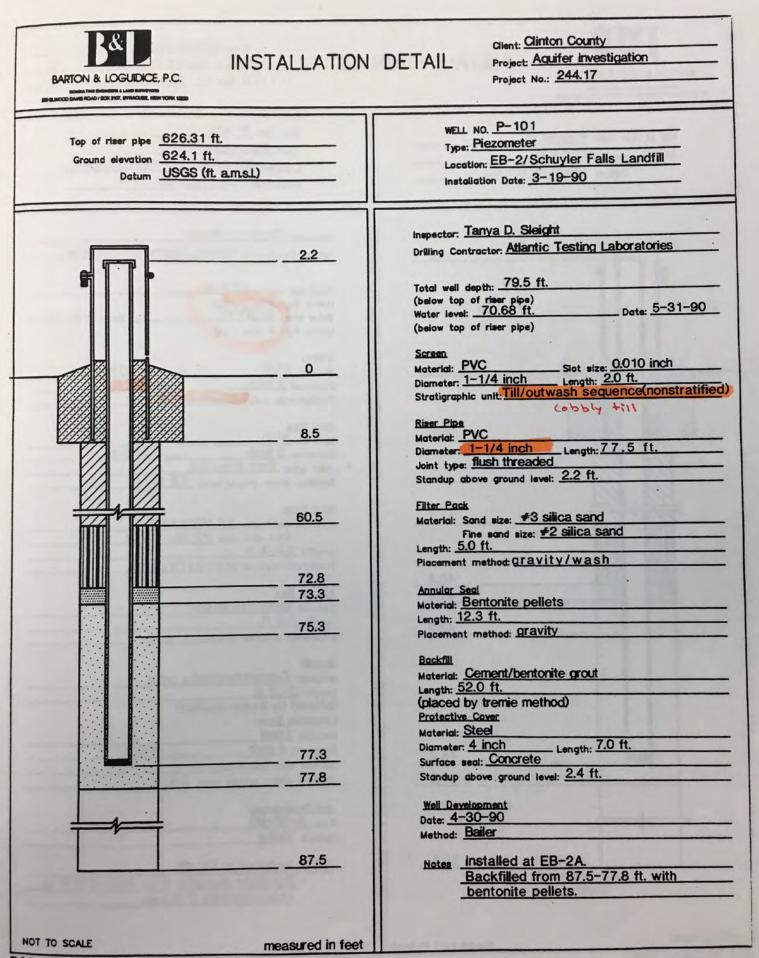
INSTALLATION DETAIL

Well No. MW-220

Sheet 1 of 1

PROJECT No. 244.26





B&L Form # 139



CONSIL TWO BRIDDERS & LAND DURING YORS D DAVID FORD / BOX 2107, BYTHICLIER, MENY YORK, 128

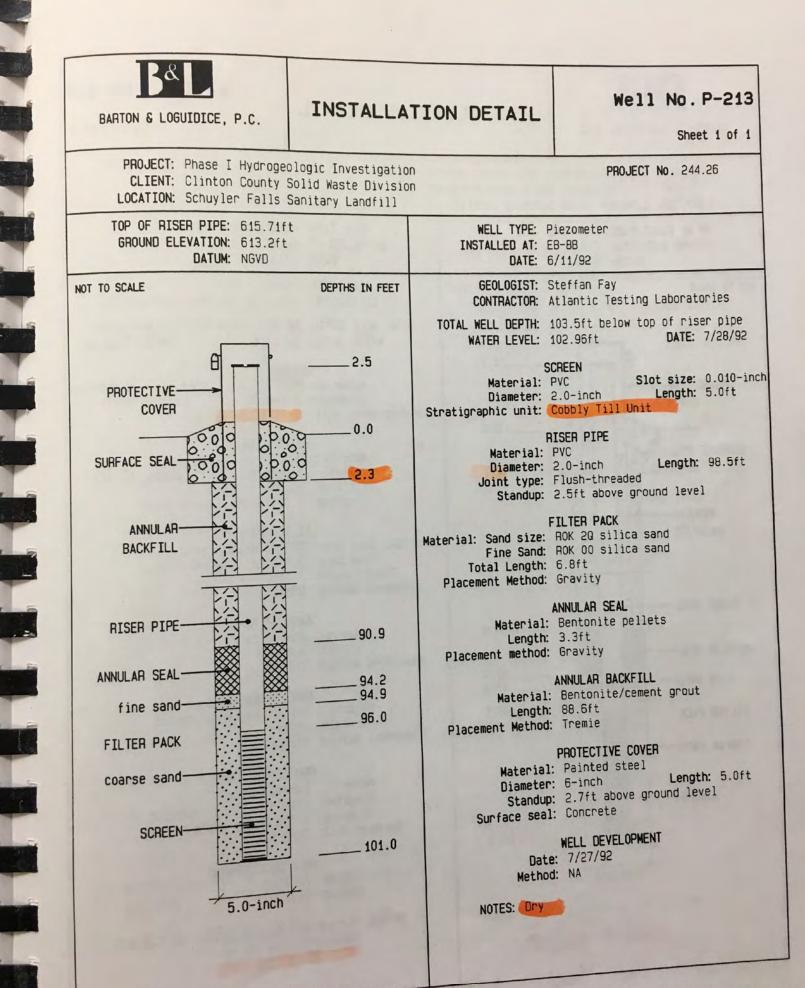
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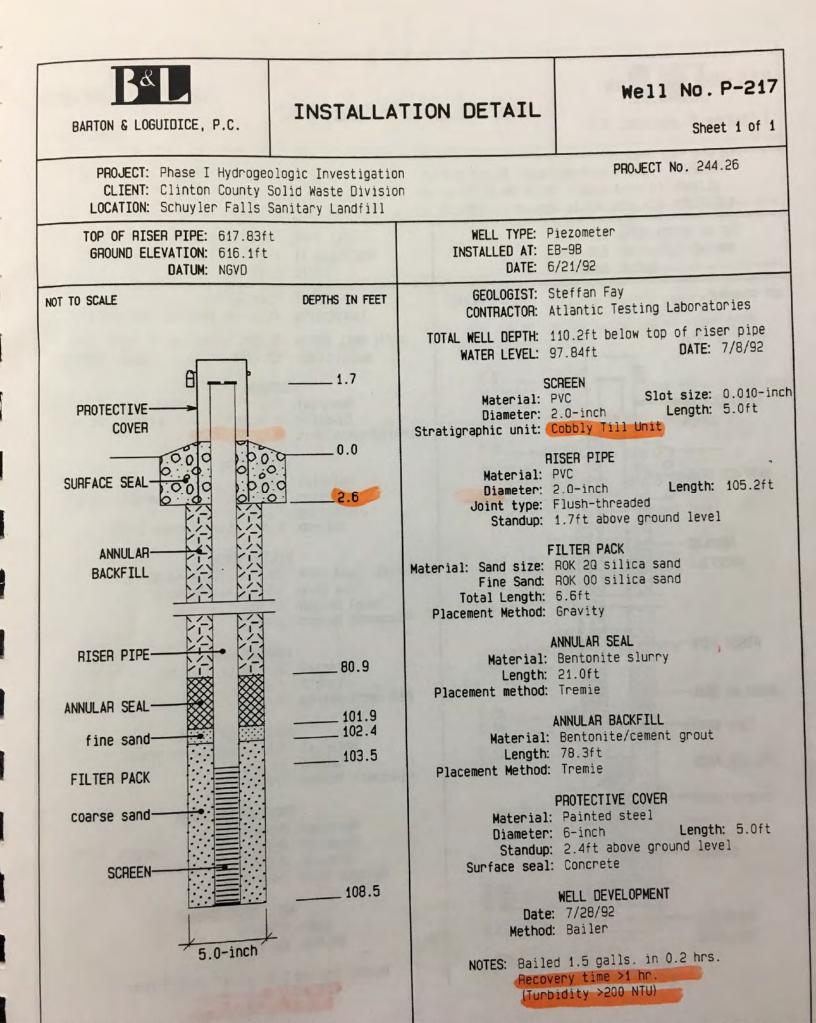
Client: Clinton County Project: Aquifer Investigation Project No.: 244.17

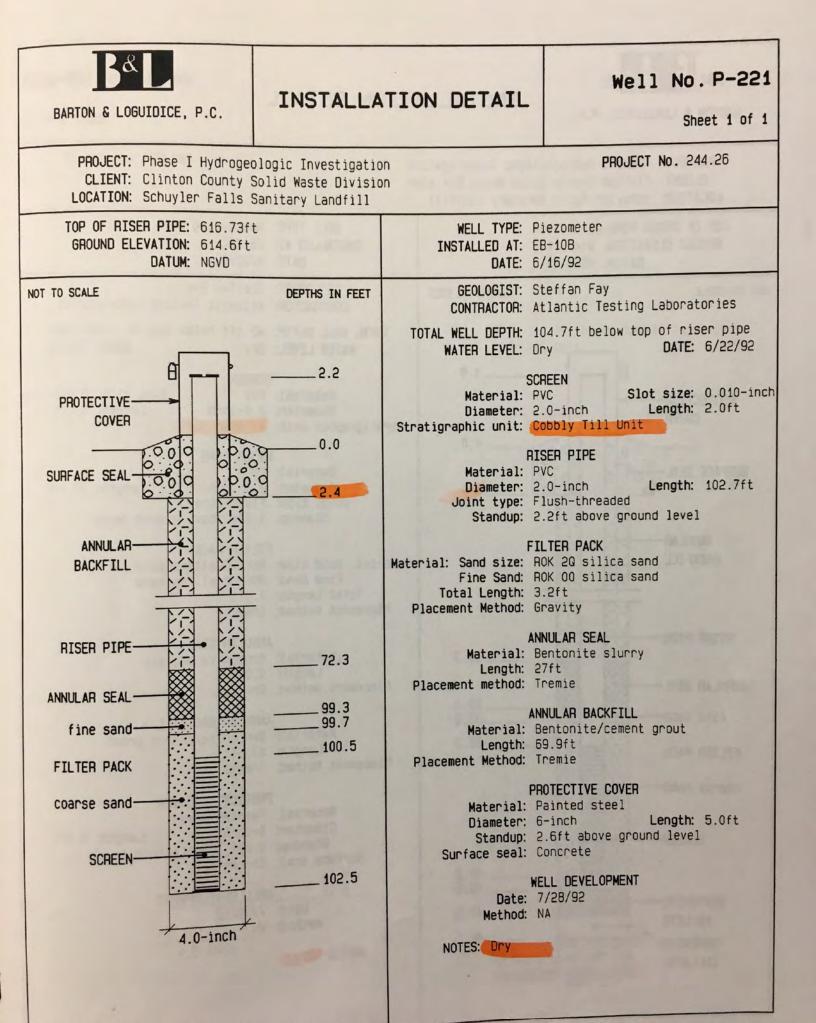
Date: 5-31-90

WELL NO. P-108 Top of riser pipe _625.04 ft. Type: Piezometer Ground elevation _622.4 ft. Location: EB-2/Schuyler Falls Landfill Datum USGS (ft. a.m.s.L) Installation Date: 4-16-90 Inspector: Tanya D. Sleight Drilling Contractor: Atlantic Testing Laboratories 2.6 Total well depth: 102.4 ft. (below top of riser pipe) Water level: 77.86 ft. (below top of riser pipe) Screen Slot size: 0.010 inch Material: PVC 0 Diameter: 2 inch Length: 5.0 ft. Stratigraphic unit: Potsdam Sandstone Riser Pipe Material: PVC 7.5 Length: 97.4 ft. Diameter: 2 inch Joint type: flush threaded Standup above ground level: 2.6 ft. Filter Pack 82.8 Material: Sand size: #3 silica sand Fine sand size: #2 silica sand Length: 7.2 ft. Placement method: gravity/wash 92.8 Annular Seal 93.3 Material: Bentonite slurry (Quick Gel) Length: 10.0 ft. 94.8 Placement method: tremie pipe Backfill Material: Cement/bentonite grout Length: 75.3 ft. (placed by tremie method) Protective Cover Material: Steel Length: 7.0 ft. Diameter: 4 inch 99.8 Surface seal: Concrete 100.0 Standup above ground level: 2.8 ft. Well Development Date: 5-1-90 Method: Bailer N/A Notes installed at EB-2D. NOT TO SCALE measured in feet









CLINTON COUNTY LANDFILL FIELD ACTIVITIES SUMMARY REPORT

Attachment 3

Sampling Logs

O'Brien &	Gere Er	gineers	<u>, Inc.</u>		Low Flow Ground Water Sampling Log							
Date	5/30/2	2018	Person	inel	JL	.P & JG	Weather	80°F ,cle	ar			
Site Name	Clinton C	ounty LF	LF Evacuation Method			QED sample	Well #	MW-212				
- Site Location	Morrison		- Sampli	ampling Method		w Flow	Project #	65982				
-		- ,	-	9		-						
Well information	on:	10	xo oo tt		* Маланиа	ments taken fro	-					
Depth of Well * Depth to Water	*		6.84 ft.		Measure			ing				
Length of Water			8.98 ft.			Х	Top of Well Casi Top of Protective	-				
Depth to Intake			155 ft.				(Other, Specify)	e Casing				
Start Purge Tim	ie:	1000										
			10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min			
Elapsed	Dep						Dissolved		Flow			
Time	To W		Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate			
(min)	(f		(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(ml/min)			
0	106	-	17.7	8.22	0.563	68.8	4.25	13.1	125			
5	107		12.0	7.84	0.582	34.9	2.32	27.6	200			
10 15	107 107		11.5	7.44	0.578 0.580	26.1	1.62	22.0	200			
			11.9	7.44		20.3	1.51	13.0	200			
20 25	<u>107</u> 107		12.0 12.1	7.31 7.47	0.590 0.618	17.6 18.9	1.38 1.20	13.1 13.1	200 200			
30	107		12.1	7.62	0.662	19.9	0.97	13.0	200			
35	107		12.2	7.54	0.671	18.4	0.98	12.7	200			
40	107		12.3	7.65	0.690	18.0	0.97	12.6	200			
45	107		12.3	7.65	0.691	18.0	0.97	12.6	200			
			collec	ct sample @	1055							
					•							
End Purge Time		1045										
Water sample:												
Time collected:	1055				Total volume of	purged water re	emoved:	~0.60 gallo	ons			
Physical appear	rance at start					Physical appea	rance at sampling	I				
	Color cl	ear w. white	CaCo_3				Color	clear	_			
	Odor	none					Odor	none	_			
Sheen/Free Pro	oduct	none				Sheen/Fr	ee Product	none	_			
							Notes:					
Field Test Res	ults:	Dissolve	d ferrous iron:		N/A		Sampled using	QED sample pro	bladder pump			
		Dissolve	d total iron:		N/A		PINE ID: 1632					
		Dissolve	d total manganese	:	N/A		EB: 5-CLI-002-					
Analytical Para	ameters						Field ID: 5-CLI- Location ID: 5-0	CLI-002-MW-212				
-		<u> </u>		# 0- "		al Eiltean!			Contain 1			
Sample	÷	Contai	ner Type	# Collect	eu Fiel	d Filtered	Preservati	ve (Container pH			
							l					
							1					
							1					

O'Brien 8	k Gere Eng	ineers	<u>, Inc.</u>		Low Flow Ground Water Sampling Log					
Date	5/31/20)18	Person	nel	Joe Perry	/ John Gardner	Weather	80°F, clea	ar	
Site Name	Clinton Cou	unty LF	Evacua	ation Method	2" Ba	iler (HOPE)	Well #	MW-213	**	
Site Location	Morrisonvil		Sampli	ng Method	-	r- no purge	Project #	65982		
Well informati				5		1 0	<u> </u>			
Depth of Well	-	~10	3.54 ft.		* Measure	ments taken fron	n			
Depth to Wate			0.23 ft.		medeale	X	Top of Well Cas	sing		
Length of Wate		4.	.31 ft.				Top of Protectiv	-		
Depth to Intake	e *	Ν	l/A ft.				(Other, Specify)			
Start Purge Tir	ne:	*N/A								
	1									
Elenand	Dont	h	10.0%	0.1	3%	10 mV	10% Dissolved	10%	100-500 ml/min	
Elapsed Time	Depti To Wat		Temperature	pН	Conductivity	ORP	Dissolved Oxygen	Turbidity	Flow Rate	
(min)	(ft)		(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(ml/min)	
()	(11)		(0010100)	(64)	(interently	()	(((/)	
	*	Purging of	well volumes was	not conduc	ted prior to same	ling due to low y	vator column volu	umo		
		T urging of			sample MW-213					
									-	
									<u> </u>	
End Purge Tim	ne:	*N/A		note: only P	FAS, VOCs 826	0, and PAHS 1,4	Diox, 8270 were	e collected for ana	alytical analysis	
Water sample				due to low v	volume wells					
Time collected		_			Total volume of			N/A		
Physical appea			porticulato			Physical appear	rance at sampling Color	5		
	Odor <u>clear</u>	none	particulate				Odor	clear w/ CaCo_3 none	<u> </u>	
Sheen/Free Pr		none				Sheen/Fre	e Product	none	_	
Field Test Res	sults:		d ferrous iron:		N/A				sents P-213 in the	
			d total iron: d total manganese		N/A N/A			workplan		
		Dissolved		•	14/7 (Field ID: 5-CLI	-002-003-01		
Analytical Par	ameters:						Location ID: 5-	CLI-002-MW-213		
Samp	le	Contair	ner Type	# Collect	ed Fiel	d Filtered	Preservat	ive (Container pH	

O'Brien &	<u>O'Brien & Gere Engineers, Inc.</u>					ow Ground	d Water Sa	mpling Log	
Date	5/	30/2018	Person	nel	JL	.P & JG	Weather	80°F, cle	ar
Site Name	Clinto	n County LF	- Evacua	ation Method	bladder- C	ED sample pro	Well #	MW-21	
Site Location		sonville, NY		ing Method		w Flow	Project #	65982	
				<u> </u>				00002	
Well information	on:								
Depth of Well *		-	0.41 ft.		* Measurer	ments taken from			
Depth to Water			0.25 ft.			Х	Top of Well Casi	-	
Length of Wate			0.16 ft.				Top of Protective	e Casing	
Depth to Intake	-	~15	5.00 ft.				(Other, Specify)		
Start Purge Tim	ie:	940							
			10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed		Depth					Dissolved		Flow
Time	Т	o Water	Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate
(min)		(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(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 25		100.78 100.79	10.8 10.8	9.58 9.57	0.72 0.72	-104.6 -98.7	7.12 8.13	31.5 28.3	200 200
30		100.79	10.8	9.57	0.72	-98.7 -99.4	8.13 7.07	28.3	200
30		100.83	10.6	9.55	0.72	-99.4	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
			collect	ed sample @	0 1055				
End Purge Time		1050							
-		1050							
Water sample:									
Time collected:	1050)			Total volume of	purged water rer	noved:	4 gallon	S
Physical appear	rance at s	tart				Physical appear	ance at sampling		
	Color	clear					Color	clear	_
	Odor -	none				<u> </u>	Odor	none	_
Sheen/Free Pro	duct	none				Sheen/Fre		none	_
		D . 1					Notes:		
Field Test Res	ults:		d ferrous iron:		N/A			QED sample pro b	ladder pump
			d total iron:		N/A		PINE ID: 11286	~ ~ ~	
		Dissolved	d total manganese):	N/A		EB: 5-CLI-002-00 Field ID: 5-CLI-0		
Analytical Para	meters:						Location ID: 5-C		
				# ^ _!! ·		d Filter	D		Dente in a set l
Sample	÷	Contai	ner Type	# Collecte	eu Fiel	d Filtered	Preservati	ve (Container pH
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								-	

O'Brien &	Gere Engin	<u>eers, Inc.</u>		Low FI	Low Flow Ground Water Sampling Log				
Date	6/1/2018	Perso	onnel	Joe Perry	/ John Gardner	Weather	77°F, rai	n	
Site Name	Clinton County	LF Evac	uation Method	2"0D B	ailer (HDPE)	Well #	MW-220)	
Site Location	Morrisonville, N	NY Samp	ling Method	Baile	r-no purge	Project #	65982		
Wall informati									
Well informati Depth of Well *		154.23 ft.		* Measurer	ments taken fron	n			
Depth to Water		120.92 ft.		Measurer	X	Top of Well Casi	ina		
Length of Wate		33.31 ft.				Top of Protective	-		
Depth to Intake		*N/A ft.				(Other, Specify)			
Start Purge Tin	ne: *N	I/A							
ů									
		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min	
Elapsed	Depth					Dissolved		Flow	
Time	To Water	Temperature	pH (au)	Conductivity	ORP	Oxygen	Turbidity	Rate	
(min)	(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(ml/min)	
	*	*purging of well volume				•			
	note:	conducted on pre due to obstruction in we				-	w/in		
		terval. NYSDEC gave p							
								I	
End Purge Tim		N/A							
Water sample									
Time collected:				Total volume of			N/A		
Physical appea	rance at start Color	N/A			Physical appeal	rance at sampling Color	N/A		
	Odor	N/A				Odor	N/A	-	
Sheen/Free Pre	oduct	N/A			Sheen/Fre	ee Product	N/A		
Field Test Res		ssolved ferrous iron: ssolved total iron:		N/A N/A					
		ssolved total manganes	e:	N/A N/A					
						Field ID: 5-CLI-	002-004-04		
Analytical Par	ameters:					Location ID: 5-0	CLI-002-MW-220		
Sampl	e (Container Type	# Collect	ed Fiel	d Filtered	Preservati	ve C	Container pH	
			+						
			+						
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O'Brien &	Gere Engineers	<u>s, Inc.</u>		Low Flow Ground Water Sampling Log					
Date	6/1/2018	Persor	nel	Joe Perry	/ John Gardner	Weather	70°F, rair	1	
Site Name	Clinton County LF	- Evacua	ation Method	QED sam	ple pro bladder	Well #	MW-C2		
Site Location	Morrisonville, NY	- Sampli	ing Method		w Flow	Project #	65982		
			3			-)			
Well information	-	0 4E #		* Марациа	mente telven fren	_			
Depth of Well * Depth to Water		68.45 ft. 60.65 ft.		Measure	ments taken fron X	Top of Well Cas	ing		
Length of Water		8.3 ft.			^	Top of Protective	-		
Depth to Intake		54.00 ft.				(Other, Specify)	soasing		
Start Purge Tin	ne:900)							
		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min	
Elapsed	Depth					Dissolved		Flow	
Time	To Water	Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate	
(min)	(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(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 -81.9	0.09	8.71 (2)	200	
30 35	151 151	16.0 16.2	6.94 6.99	0.83 0.84	-81.9	0.07 0.05	7.97(2) 6.82 (2)	200 200	
	101		e collected a		-00.4	0.05	0.02 (2)	200	
		Sampi	e conected a	1 3.40					
		1							
							<u> </u>		
End Purge Tim	e: 935	5	(2) collected	I sample outside	+/- 10% turbidity	due to reading b	peing below 10 NT	U.	
Water sample:			standard m	et for below 50 N	TI I for analysis				
Time collected:					purged water rei	movod	N/A		
				Total volume of					
Physical appea					Physical appear	ance at sampling			
	Color clear w/ blk						lear no blk particle	-	
	Odor slight cher				Ob a size (Fina	Odor	slight chem odor	-	
Sheen/Free Pro	oduct none				Sheen/Fre	e Product	none	-	
Field Test Des	ulte. Disselve	d former in an		N1/A		aina numa #1. D			
Field Test Res		d ferrous iron:		N/A	note: sampled u	ising pump #1: P	INE ID: 16362		
		d total iron:		N/A			004.05		
	DISSOIVE	d total manganese):	N/A		EB: 5-CLI-002- Field ID: 5-CLI-			
Analytical Para	ameters:					CLI-002-MW-C2			
Sampl	e Conta	iner Type	# Collect	ed Fiel	d Filtered	Preservat	ive C	ontainer pH	
									
			L						
							_		
									
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O'Brien &	<u>n & Gere Engineers, Inc.</u>					ow Groun	d Water Sa	mpling Log	1
Date	6	5/1/2018	Person	inel	Joe Perry	/ John Gardner	Weather	85°F, cle	ar
Site Name	Clinto	n County LF	Evacua	ation Method	Bladder-C	ED sample pro	Well #	MW-E	
Site Location		sonville, NY	Sampli	ng Method	Method Low Flow			65982	
			- Camp.				Project #		
Well information			o oo		* 14				
Depth of Well *		-	8.23 ft.		^ Measure	ments taken from			
Depth to Water			2.73 ft.			Х	Top of Well Cas	-	
Length of Wate			5.5 ft.				Top of Protectiv	-	
Depth to Intake)	~	<u>70.0</u> ft.				(Other, Specify)		
Start Purge Tim	1e:	830							
			10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed		Depth					Dissolved		Flow
Time	Т	o Water	Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate
(min)		(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(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 40		155 155	9.3 9.2	8.85 8.83	0.75 0.75	-196.5 -197.6	0.72 0.66	1.98	300
40		100		o.o3 mpled @ 09		-197.0	0.00	1.17	300
			34	inpieu @ 03	20				
End Purge Time	e:	910							
Water sample:	:								
Time collected:)			Total volume of	purged water rei	noved:	12,000 mL→3.1	7 gallons
Physical appea		tart					ance at sampling		<u> </u>
	Color	clear				i nysicai appeai	Color	clear	
	Odor	none					Odor	none	-
Sheen/Free Pro	-	none				Sheen/Fre		none	-
	-	none				Sheen/Ple	Pump #2: PINE	1	_
Field Test Res	aulter	Discolver	d ferrous iron:		N/A		EB:5-CLI-002-0		
I IEIU I ESL RES	ults.		d terrous iron:		N/A N/A		LD.J-ULI-002-0	04-00	
					N/A N/A				
		DISSOIVE	d total manganese		11/74		Field ID: 5-CLI	-002-004-01	
Analytical Para	ameters:							CLI-002-MW-E	
Comel	Sample Container Type # C			# Collect		d Filtorod	Drocomicit	ivo (Container pU
Sample	5	Contall	нег туре	# Collect	eu Fiel	d Filtered	Preservat	ive (Container pH
								İ	
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O'Brien & Gere Engineers, Inc.					Low Flow Ground Water Sampling Log				
Date	6/1/2018 Personnel				Joe Perry	//John Gardner	Weather	77°F, rai	n
Site Name	Clinton County	LF	Evacuation Meth	nod	1" Ba	iler (HDPE)	Well #	P-101	
Site Location	Morrisonville,		Sampling Method Bailer- no purge			Project #	65982		
Mall informati				•		1 0			
Well informati Depth of Well *		80.15	ft.		* Moasuroi	ments taken from	,		
Depth to Water			ft.		Measurer		Top of Well Casi	na	
Length of Wate			ft.				Top of Protective	-	
Depth to Intake) *	~80	ft.				(Other, Specify)	-	
Start Purge Tin	ne: *N	N/A							
otart i digo i ii		v // v							
		10.0	% 0.1		3%	10 mV	10%	10%	100-500 ml/min
Elapsed	Depth						Dissolved		Flow
Time	To Water	Temper	-		ductivity	ORP	Oxygen	Turbidity	Rate
(min)	(ft)	(celsi	us) (su)	(r	ns/cm)	(mV)	(mg/l)	(NTU)	(ml/min)
				_					
		* purging of well v	volumes was not	conducte	d prior to s	ampling due to v	vell development		
		conduveted	previous week or	5-24-18	. see note	below for sampli	ng method.		
				_					
				_					
				_					
End Purge Tim	e: N	/A	note: due	e to pum	o failure, fie	ld team was uns	uccessfulat colleg	cting sample using	n low flow
Water sample			•					ising PFAS free b	
Time collected:			Stabilizati			purged water rer		N/A	allei
Physical appea							ance at sampling		
,	Color	clear	_			,	Color	clear	
	Odor	none	-				Odor	none	_
Sheen/Free Pre	oduct	none	-			Sheen/Fre	e Product	none	-
Field Test Res	ulte D	issolved ferrous in	on:		N/A				
		issolved total iron:			N/A				
	D	issolved total mar	nganese:		N/A	• _			
							Field ID: 5-CLI-		
Analytical Par	ameters:						Location ID: 5-0	CLI-002-P-101	
Sampl	e	Container Type	# Colle	ected	Fiel	d Filtered	Preservati	ve C	Container pH
		~ .							·

<u>O'Brien &</u>	Gere Engineer	Low FI	Low Flow Ground Water Sampling Log					
Date	5/29/2018	Person	nel	JL	P & JG	Weather	80°F, clear s	skies
Site Name	Clinton County LF	 Evacua	ation Method Bladder Pump		Well #	P-108*		
Site Location	Morrisonville, NY	 Sampli	ng Method		w Flow	Project #	65982	
Well information	n.							
Depth of Well *		102.4 ft.		* Measurer	nents taken fro	m		
Depth to Water *		75.01 ft.		[X	Top of Well Casi	ng	
Length of Water		27.39 ft.				Top of Protective	-	
Depth to Intake '	* ~	100.00 ft.				(Other, Specify)		
Start Purge Time	e: 133	30						
		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed	Depth					Dissolved		Flow
Time	To Water	Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate
(min)	(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(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 35	76.47 76.56	11.9 11.9	6.83 6.79	0.70 0.71	37.1 33.3	2.07 2.03	18.7 14.0	250 250
40	76.82	11.9	6.79	0.71	33.3	2.03	14.0	250
45	76.74	11.9	6.51	0.70	32.1	1.91	14.8	250
10	70.71		ct sample @		02.1	1.01	11.0	200
I								
End Purge Time	: 141	5		*P-108 represen	+- 1/1/ 100	ممار مار ما		
Water complet						ne work plan		
Water sample:								
Time collected:	1425			Total volume of			~2.97 to 3 ga	allons
Time collected:					purged water re			allons
Time collected: Physical appeara	ance at start Color white to	clear			purged water re	emoved: arance at sampling Color		allons
Time collected: Physical appeara (ance at start Color white to Odor nor	e			purged water n Physical appea	emoved: arance at sampling Color Odor	clear none	allons
Time collected: Physical appeara	ance at start Color white to Odor nor	e			purged water n Physical appea	emoved: arance at sampling Color Odor ree Product	clear	allons
Time collected: Physical appeara (C Sheen/Free Proc	ance at start Color white to Ddor nor duct nor	ie ie			purged water n Physical appea	emoved: arance at sampling Color Odor ree Product Notes:	clear none none	-
Time collected: Physical appeara (ance at start Color white to Odor nor duct nor	e ed ferrous iron:		N/A	purged water n Physical appea	emoved: arance at sampling Color Odor ree Product Notes: Sampled using	clear none none QED sample pro	-
Time collected: Physical appeara (C Sheen/Free Proc	ance at start Color white to Odor nor duct nor	ie ie		N/A N/A	purged water n Physical appea	emoved: arance at sampling Color Odor ree Product Notes:	clear none none QED sample pro	-
Time collected: Physical appeara (C Sheen/Free Proc	ance at start Color white to Odor nor duct nor Ilts: Dissolv	e ed ferrous iron:	c	N/A	purged water n Physical appea	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002-	clear none none QED sample pro 2 001-03	-
Time collected: Physical appeara (C Sheen/Free Proc	ance at start Color white to Odor nor duct nor Ilts: Dissolv Dissolv	e ed ferrous iron: ed total iron:	:	N/A N/A	purged water n Physical appea	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362	clear none QED sample pro 2 001-03 002-001-01	-
Time collected: Physical appeara (C Sheen/Free Proc Field Test Resu Analytical Para	ance at start Color white to Odor nor duct nor Ilts: Dissolv Dissolv Dissolv	ed ferrous iron: ed total iron: ed total manganese		N/A N/A N/A	purged water m Physical appea Sheen/Fi	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump
Time collected: Physical appeara (C Sheen/Free Proc Field Test Resu Analytical Para	ance at start Color white to Odor nor duct nor Dissolv Dissolv Dissolv meters: Cont	ed ferrous iron: ed total iron: ed total manganese ainer Type	# Collec	N/A N/A N/A	purged water m Physical appea Sheen/Fi	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI-	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	-
Time collected: Physical appeara (C Sheen/Free Proc Field Test Resu Analytical Para Sample PFAS	ance at start Color white to Door nor duct nor Dissolv Dissolv Dissolv meters: Cont 2500	ee ed ferrous iron: ed total iron: ed total manganese ainer Type nL HDPE	# Collec 2	N/A N/A N/A	purged water m Physical appea Sheen/Fi d Filtered	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump
Time collected: Physical appeara (C Sheen/Free Proc Field Test Resu Analytical Para	ance at start Color white to Door nor duct nor Dissolv Dissolv Dissolv meters: Cont 2500 C 1 liter /	ed ferrous iron: ed total iron: ed total manganese ainer Type	# Collec	N/A N/A N/A	purged water m Physical appea Sheen/Fi	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump
Time collected: Physical appeara C Sheen/Free Proc Field Test Resu Analytical Paran Sample PFAS 1,4 DioX VOCs Alk	ance at start Color white to Door nor duct nor Dissolv Dissolv Dissolv meters: Cont 2500 C 1 liter /	ee ed ferrous iron: ed total iron: ed total manganese ainer Type nL HDPE Amber glass	# Collect 2 2 3 1	N/A N/A N/A	purged water re Physical appea Sheen/Fi Sheen/Fi N N N N	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump
Time collected: Physical appeara C Sheen/Free Proc Field Test Resu Analytical Parat Sample PFAS 1,4 DioX VOCs Alk AmN	ance at start Color white to Odor nor duct nor dits: Dissolv Dissolv Dissolv meters: Cont 250 C 1 liter 40mL	ee ed ferrous iron: ed total iron: ed total manganese ainer Type nL HDPE Amber glass	# Collec: 2 2 3 1 1	N/A N/A N/A	purged water m Physical appea Sheen/Fi Sheen/Fi N N N N N N	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump
Time collected: Physical appeara C Sheen/Free Proc Field Test Resu Analytical Paran Sample PFAS 1,4 DioX VOCs Alk	ance at start Color white to Odor nor duct nor dits: Dissolv Dissolv Dissolv meters: Cont 250 C 1 liter 40mL	ee ed ferrous iron: ed total iron: ed total manganese ainer Type nL HDPE Amber glass	# Collect 2 2 3 1	N/A N/A N/A	purged water re Physical appea Sheen/Fi Sheen/Fi N N N N	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump
Time collected: Physical appeara C Sheen/Free Proc Field Test Resu Analytical Parat Sample PFAS 1,4 DioX VOCs Alk AmN 40c 5w 34	ance at start Color white to Odor nor duct nor dits: Dissolv Dissolv Dissolv meters: Cont 250 C 1 liter 40mL	ee ed ferrous iron: ed total iron: ed total manganese ainer Type nL HDPE Amber glass	# Collec 2 2 3 1 1 1	N/A N/A N/A	purged water m Physical appea Sheen/Fi Sheen/Fi N N N N N N N N	emoved: arance at sampling Color Odor ree Product Notes: Sampled using PINE ID: 16362 EB: 5-CLI-002- Field ID: 5-CLI- Location ID: 5-C	clear none QED sample pro 2 001-03 002-001-01 CLI-002-P-108	- - bladder pump

O'Brien 8	Gere Engineer	<u>s, Inc.</u>		Low Fl	Low Flow Ground Water Sampling Log				
Date	5/31/2018	Person	inel	Joe Perry	, John Gardner	Weather	80°F clea	ar	
Site Name	Clinton County LF	 Evacua	ation Method	2" Ba	ler (HOPE)	Well #	P-217		
Site Location	Morrisonville, NY	Sampli	ng Method		r- no purge	Project #	65982		
Well informati	02:		-						
Depth of Well '		08.32 ft.		* Measurei	nents taken fron	n			
Depth to Wate		04.49 ft.		modelle	X	Top of Well Cas	ing		
Length of Wate		3.83 ft.				Top of Protective	-		
Depth to Intake		N/A ft.				(Other, Specify)			
Start Purge Tir	ne: N/A								
0									
		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min	
Elapsed	Depth					Dissolved		Flow	
Time	To Water	Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate	
(min) *	(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(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 very no water was retrieved to collect and fill sample bottles. See well development form 8								
End Purge Tim	ie: N/A	١							
Water sample	no sample coll	ected **							
Time collected	N/A			Total volume of	purged water re	moved:	N/A		
Physical appea					Physical appear	rance at sampling			
	Color N/A					Color Odor	N/A	_	
Sheen/Free Pr	Odor N/A oduct N/A				Sheen/Fre	e Product	N/A N/A	_	
		<u>. </u>			0001			_	
Field Test Res	sults: Dissolve	ed ferrous iron:		N/A					
		ed total iron:		N/A					
	Dissolv	ed total manganese	:	N/A					
Analytical Par	ameters:								
		<u> </u>							
Sampl	e Conta	ainer Type	# Collect	ed Fiel	d Filtered	Preservat	ive	Container pH	

O'Brien 8	Gere Engine	<u>eers, Inc.</u>		Low Fl	ow Groun	d Water Sa	mpling Log	_
Date	5/31/2018	Persor	nnel	Joe Perry	/ John Gardner	Weather	75°F clea	r
Site Name	Clinton County I	_F Evacu	ation Method	2"00 B	ailer (HDPE)	Well #	P-221	
Site Location	Morrisonville, N		Sampling Method Bailer-no purge			Project #	65982	
		<u> </u>	5		1 0			
Well informati Depth of Well *		106.75 ft.		* Measurer	ments taken fron	1		
Depth to Water	r*	102.06 ft.			Х	Top of Well Casi	ing	
Length of Wate		4.79 ft.				Top of Protective	e Casing	
Depth to Intake		N/A ft.				(Other, Specify)		
Start Purge Tin	ne: <u>* N/A</u>							
		10.0%	0.1	3%	10 mV	10%	10%	100-500 ml/min
Elapsed	Depth					Dissolved		Flow
Time	To Water	Temperature	рН	Conductivity	ORP	Oxygen	Turbidity	Rate
(min) *	(ft)	(celsius)	(su)	(ms/cm)	(mV)	(mg/l)	(NTU)	(ml/min)
		ourging of well values w						
	column and	d suspected low rechar	ge rates. NYS	DEC gave perm	ission to sample	e P-221 w/PFAS f	ree bailer	
End Purge Tim	ie:	* N/A		Note: Only	PFAs modified !	537. VOC 8260. 8	& PAHs + 1,4 Diox	ane, 8270 bottles
Water sample							e to low volume we	
Time collected				Total volume of			N/A	5115
Physical appea						ance at sampling		
. infoloai appoo		turbid			i njeleta appeta	Color	clear yellow tint	
	Odor	none				Odor	none	
Sheen/Free Pr	oduct	none			Sheen/Fre	e Product	none	-
Field Test Res	Nulte: Die	solved ferrous iron:		N/A				
riela restries		solved total iron:	-	N/A				
	Dis	solved total manganese	•:	N/A				
						Field ID: 5-CLI-		
Analytical Par	ameters:					Location ID: 5-0	CLI-002-P-221	
Sampl	e C	Container Type	# Collecte	ed Fiel	d Filtered	Preservati	ve C	ontainer pH
							<u> </u>	

CLINTON COUNTY LANDFILL FIELD ACTIVITIES SUMMARY REPORT

Attachment 4

Analytical Laboratory Level II Data Deliverable



Dayton, NJ

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

07/16/18 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



A. Paul Ioannidis General Manager

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.

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)

This report shall not be reproduced, except in its entirety, without the written approval of SGS. Test results relate only to samples analyzed.

SGS North America Inc. • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499

Please share your ideas about how we can serve you better at: EHS.US.CustomerCare@sgs.com

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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	Matr Code		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 reco	ommended metho	od holding time.
-	Sample(s) JC66897-15MS, JC66897-15M	ISD were used a	s 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 reextract	tion 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).</p>

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).</p>

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

Ма	rix: 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

Page 2 of 3

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

|--|

- 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 metho	d 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

	U	
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.

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

Monday, June 18, 2018

Page 3 of 3





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	c - Orlando on 06/	01/2018 properly preserved, at 3.8

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 Client Sample Analyte	ID Result/ Oual	RL	MDL	Units	Method
JC66973-1 5-CLI-002-001	•				
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.







Dayton, NJ

Section 4

Sample Results

Report of Analysis



4



Client San Lab Sam Matrix: Method: Project:	ple ID: JC66 AQ - SW84	Ground Wa 46 8260C		County	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4B82406.D	DF 1	Analyzed 06/02/18 03:12	By HT	Prep Date n/a	Prep Batc n/a	h Analytical Batch V4B3422
Run #1 Run #2	Purge Volum 5.0 ml	ie					

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

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound

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JC66973

E = Indicates value exceeds calibration range

J = Indicates an estimated value

Client Samj Lab Sample Matrix: Method: Project:		5-CLI-002-001-01 JC66973-1 AQ - Ground Water SW846 8260C OBGNYA: ILI - Region 5, Clinton County Landfill					te Sam te Reco cent S	05/29/18 05/30/18 n/a		
VOA Specia	al List									
CAS No.	Comp	ound	Result	RL	MDL	Units	Q			
74-95-3 75-09-2 100-42-5 630-20-6 79-34-5 127-18-4 108-88-3 71-55-6 79-00-5 79-01-6 75-69-4 96-18-4 108-05-4 75-01-4 95-47-6 1330-20-7	Methylene bromide Methylene chloride Styrene 1, 1, 1, 2-Tetrachloroethane 1, 1, 2, 2-Tetrachloroethane Tetrachloroethene Toluene 1, 1, 1-Trichloroethane 1, 1, 2-Trichloroethane Trichloroethene Trichlorofluoromethane 1, 2, 3-Trichloropropane Vinyl Acetate Vinyl chloride m, p-Xylene o-Xylene Xylene (total)		ND ND ND ND ND ND ND ND ND ND ND ND ND N	$ \begin{array}{c} 1.0\\ 2.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1$	$\begin{array}{c} 0.45\\ 1.0\\ 0.24\\ 0.19\\ 0.17\\ 0.50\\ 0.25\\ 0.25\\ 0.25\\ 0.24\\ 0.27\\ 0.60\\ 0.47\\ 3.2\\ 0.62\\ 0.43\\ 0.22\\ 0.22\\ \end{array}$	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l				
CAS No.	Surro	gate Recoveries	Run# 1	Run# 2	Lim	its				
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane		112% 115% 100% 95%							
CAS No.	Tenta	tively Identified Com	pounds	R.T.	Est.	Conc.	Units	Q		
	system artifact Total TIC, Volatile			3.58	120 0		ug/l ug/l	J		

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

(b) Associated CCV outside of control limits low.

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 2 of 2



Client San Lab Samp Matrix: Method: Project:	le ID: JC6697 AQ - G SW846	CLI-002-001-01 66973-1 Q - Ground Water 7846 8270D BY SIM SW846 3510C 8GNYA: ILI - Region 5, Clinton County L			Date Sampled: 05/29/18 Date Received: 05/30/18 Percent Solids: n/a Landfill			
	File ID	DF	Analyzed	By	Prep Date	Prep 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	
Run #1	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	В
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	Limi	its	
4165-60-0	Nitrobenzene-d5	94%	75%	29-1	24%	
321-60-8	2-Fluorobiphenyl	76%	60%	23-1	22%	
1718-51-0	Terphenyl-d14	59%	77%	22-1	30%	

(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.

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

E = Indicates value exceeds calibration range

	Initial Volume	Final V	alume				
Run #1 ^a Run #2	2Q15357.D	1	06/12/18 05:00	AFL	06/05/18 16:00	F:OP70362	F:S2Q275
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Lab Samp Matrix: Method: Project:	AQ - G EPA 53	round Wa 37M BY I	ter D EPA 537 MOD Region 5, Clinton C	ounty I	Date Perc	Received: 0 ent Solids: r	05/30/18
Client San Lab Samp	nple ID: 5-CLI-(le ID: JC6697		1		Data	Sampled: (05/29/18

Report of Analysis	
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Initial VolumeFinal VolumeRun #1250 ml1.0 mlRun #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	Li	mits	
	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

Page 1 of 2

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.

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



Page 2 of 2



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
		Percent Solids:	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

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	7mg/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

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JC66973

SGS LabLink@1006845 10:45 16-Jul-2018

Chem sample ID: .	5-CLI-002-001-01			
Lab Sample ID:	JC66973-1	Date Sampled:	05/29/18	4
Matrix:	AQ - Ground Water	Date Received:	05/30/18	
		Percent Solids:	n/a	4
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill			

Report of Analysis

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
Total Organie Carbon	1.0	1.0	0.00	1115/1	1	00/00/10 10.45 CD BW010 20001

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

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Client Sam Lab Sampl Matrix: Method: Project:	le ID: JC669' AQ - H EPA 5	quipment 37M BY I		county I	Date Perc	Sampled: (Received: (ent Solids: 1	
Run #1 ^a Run #2	File ID 2Q15358.D	DF 1	Analyzed 06/12/18 05:25	By AFL	Prep Date 06/05/18 16:00	Prep Batch F:OP70362	Analytical Batch F:S2Q275
Run #1	Initial Volume 250 ml	Final V 1.0 ml	olume				

Run #2

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	luorobutanoic 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	Lim	its	
	13C4-PFBA	104%		30-1	40%	
	13C5-PFPeA	103%		40-1	40%	
	13C5-PFHxA	111%		50-1	50%	
	13C4-PFHpA	115%		50-1	50%	
	13C8-PFOA	140%		50-1	50%	
	13C9-PFNA	131%		50-1	50%	
	13C6-PFDA	115%		50-1	50%	
	13C7-PFUnDA	106%		50-1	50%	

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



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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

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

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

4.2 4

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Client San Lab Samj Matrix: Method: Project:	AQ - SW8	973-3 Trip Blank 46 8260C		County	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4B82405.D	DF 1	Analyzed 06/02/18 02:43	By HT	Prep Date n/a	Prep Batc n/a	h Analytical Batch V4B3422
Run #1 Run #2	Purge Volun 5.0 ml	ie					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 2

SGS

E = Indicates value exceeds calibration range

J = Indicates an estimated value

Client Sam Lab Sampl Matrix: Method: Project:	-		n County	Landfill	Date	Sampled: Received: ent Solids:	05/29/18 05/30/18 n/a
VOA Speci	al 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 1330-20-7	o-Xylene Xylene (total)	ND ND	1.0 1.0	0.22 0.22	ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts		
1868-53-7	Dibromofluoromethane	110%		80-12	20%		
17060-07-0	1.2-Dichloroethane-D4	115%		81-12			
2037-26-5	Toluene-D8		80-12	20%			
460-00-4	4-Bromofluorobenzene		80-12	20%			
CAS No.	Tentatively Identified Compo	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.

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

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Misc. Forms

Dayton, NJ

Custody Documents and Other Forms

Includes the following where applicable:

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

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ection A Laboratory Infor	matior	۱		Section B			ion			COC #:			5-CLI-002-001							
ab Name: SGS - Accutest				Company:	Parsons	/OBG				Proje		Τ	_	_		_	_			٦
ttention: Tammy Esposito McCk	Attention:	Scott Tu	ucker				Nam			ILI - Region 5						-				
ddress: Route 2235 Route 13	Address:		t Washingt		PO Box 4	873	Proje Site:		c	Clinton County Landfill										
none: 732-329-0200	Phone:	315-956					Proje Num				61						1			
nail:	Email:	Scott.Tu	cker@obg.c	tom				Pres	ervat	ive o	xodes	(for			y):	r r				
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eport To: Scott.Tucker@obg	.com		************	TAT - 10 Da	ay							PAHs	Buin Het		O4/CHL					
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com												AHs + 1, 4 - Dioxa	/Hand-60		/BRO/T	Alkai	A			
Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD			Section D		Compo	PFAS M	Dioxan	Met/Hand-6010/7470/5M20 2340C		SO4/CHL/BRO/TDS - 300/SM2540D	linity - SI	Ammonia 3								
1	Start	End		Sample	Sample		Sample		# of	Composite (Y/N) MS/MSD	PFAS Modified 537	Dioxane-8270SIM	SM20 23	COD 410.4	100/SM25400	- SM20 23208	350.1/SM20			
Location ID	Depth (ft)	Depth (ft)	Field Sample ID MUST BE UNIQUE	Date	Time	Purpose	Matrix	Туре	Cont.	8 Z #Bottle		5 M 3 2					128 1		H	-
15-CLI-002-001-P-108	10.01	2.74	5-CLI-002-001-01	5/29/18	1425		WG	N	13	NN) ×	$\langle \times \rangle$	\times	х,	XX	\mathbf{x}	X			
5-CLI-002-001-FIELDQC			5-CLI-002-001-02	5/29/18			wq	FB	2		×									
3 5-CLI-002-001-FIELDQC	<u> </u>	—	5-CLI-002-001-03	5/29/18			WQ	EB	2		x									16
4 5-CLI-002-001-FIELDQC	~	-4	5-CLI-002-001-04	5/29/18			WQ	тв	2			ĸ							Ш	ļ
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7																				
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pecial Instructions:											al as El Ve									
iplers Name:	Company:			Relinquished By:	1	Company: 🖒					emp.:			. 4 0	ustody :	Seals I	ntact:	Yes 🗆	No 🛛	
ment Method: [Shipment Tracking No: (43)77 (3)(16 (5))(16)		Accepted By Company: 565						Rec'd on 1ce: Yes Yo D				S	Samples Intact : Yes CI No Custody Seals Intact: Yes No				_			

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 5. 1

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SGS Sample Receipt Summary

Job Number:	JC66973	Client: PARS	ONS		Project: Clinton County La	ndfill	
Date / Time Received:	5/30/2018 9:45:00	AM Delive	ery Method:	FedEx	Airbill #'s:		
Cooler Temps (Raw Mea Cooler Temps (Cor	,	· · · ·					
]	<u>Y or N</u> ✓ □ OK ✓ □	 Sample label: Container lab Sample container Sample Integration Sample record 	iner label / COC agree: rity - Condition I within HT:	Y or N ✓ ✓ ✓ Y or N ✓	
4. No. Coolers:	2			 All containers Condition of s 		Broken / Leaking	
Quality Control Preserv 1. Trip Blank present / coo 2. Trip Blank listed on COO 3. Samples preserved prop 4. VOCs headspace free:	ler: 🔽 🗌			 Analysis required Bottles received Sufficient vol 	ved for unspecified tests ume recvd for analysis: instructions clear:	Y or N ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	N/A V V
2) -1 1 of 3 VO	pH 1-12: ive sample "5-CLI-0 C vials rec'd broken no collection time no	We will not screen		208717	Other: (Specify)		

JC66973: Chain of Custody Page 2 of 3 5.1

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Responded to by: Michelle

Sample was not collected
 Noted
 Sample collected at 1700

Per Scott Tucker



JC66973: Chain of Custody Page 3 of 3



	000			CHAIN	(O]	FC	UST	ο)Y												Pa	age	1 of	1	
	N i N													FED-E	EX Track	ing #				Bottle	Order Co	ntrol #			
				2235 F TEL, 732-32			NJ 08810 2-329-349		,					SGS (Quote #					SGS J	ob #		JC6697	'3	
Clie	nt / Reporting Information			Project I							-				R	eques	ted Ar	alysis (see TE	STCOL	E she	et)			Matrix Codes
Compan		Project Name:																							DW - Drinking Water
SGS	North America Inc.		OBGN	IYA: ILI - Regi	on 5, Cl	linton Co	ounty La	ndfill																	GW - Ground Water WW - Water
Street A		Street						-						-											SW - Surface Water
223 City	5 Route 130 Slate Z	ip City		State	Billing I Company		n (if diffe	rent fro	om Re	eport	to)														SO - Soil SL- Sludge
Day		,p 0,,																							SED-Sediment OI - Oil
Project (Project #	·		Street Ac	ddress																			LIQ - Other Liquid AIR - Air
	in.degraw@sgs.com								late			Zic		_											SOL - Other Solid
Phone #	-329-0200	ax # Client Purchase	Order #		City			. 5	late			21	2												WP - Wipe FB-Field Blank
		Phone Project Manager			Atlention	1:								┥.										1	EB-Equipment Blank RB- Rinse Blank
ST	(0) (40.00(0)													731											TB-Trip Blank
		-		Collection		-			Numb	per of p	reserv	ed Bot	ttles	- 16											
855					Sampled				HN03	H2SO4	NONE	MEOH	ENCOR	LCID537NY21											LAB USE ONLY
Sample #	Field ID / Point of Collection	MEOH/DI V/al #	Date	Time	by	Matrix	# of battles	P	2 ±	++	_	5 3	6		_	+				_					LAB USE ONET
1	5-CLI-002-001-01		5/29/18	2:25:00 PM	ST	AQ	2			+ +	2	_	\square	<u> </u>	_		_			_			_		
2	5-CLI-002-001-01		5/29/16	12:00:00 AM	ST	AQ	2				2	┶		X	·										
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	Tumaround Time (Business days)						Data bial "A" (L	Deliv	_	e Info r				sgory A					C	omments	/ Spec	ial Instri	uctions		
		Approved By (SGS	FPM): / Date:				sial "A" (L sial "B" (L			L I	_			egory A egory B											
	Std. 10 Business Days 5 Day RUSH						(Level 3+			ĺ			Form												
	3 Day EMERGENCY					NJ Reduc	ed			[EDD	Form	at		-									
1	2 Day EMERGENCY		·			Commer						Othe	r <u>NY</u> /	SPB		_									1
	1 Day EMERGENCY						Commen					2000													
Emi	X other 14 ergency & Rush T/A dena availa to VA Lablink						NJ Redu	ced = F	Result	s + Q(C Sun	nmary	+ Parl	ial Raw	data						_				
		1100		tody must be d	ocumen	ted belo	w each ti	me sa Reline			ange	pos	sessio	n, inclu	uding	courier				Bacal					
Relin	quished by Sampier:	5-5-76	Received By:	ŕ	ED	ng C		2	สุขารมูร	a by:				rx			E	6-0	1-18	2	J.	Cor	pe		29:30
	quished by Sampler:	Date Time:	Received By:			•		Relîna 4	guishe	d By:								te Time:		Recei 4	ved By:				,
3 Relin	quished by:	Date Time:	Received By:					1.	ndy Se	al⊄	Ś	78) (Intact Not in		Pr		here appli	able			On C		Cooler	^{Temp.} 3.8

JC66973: Chain of Custody Page 1 of 2 SGS Orlando, FL

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SGS Sample Receipt Summary

Job Number: JC669	73	Client:	SGSNJ	F	Project: OBGNYA							
Date / Time Received: 6/1/20	18 9:30:00 AM	l	Delivery Method:	FX	Airbill #'s: 1001891784660003281100563393517459							
Therm ID: IR 1;			Therm CF: 0.4;		# of Coolers: 1							
Cooler Temps (Raw Measu	red) °C: Coo	ler 1: (3.4);									
Cooler Temps (Correc	ted) °C: Coo	ler 1: (3.8);									
Cooler Information	Y or	N		Sample Information		Y or	N	<u>N/A</u>				
1. Custody Seals Present	\checkmark			1. Sample labels present on	bottles							
2. Custody Seals Intact	\checkmark			2. Samples preserved prope	erly							
3. Temp criteria achieved	\checkmark			3. Sufficient volume/contain	ers recvd for analysis:							
4. Cooler temp verification	IR Gun			4. Condition of sample		Intact						
5. Cooler media	Ice (Bag)			5. Sample recvd within HT		\checkmark						
				6. Dates/Times/IDs on COC	match Sample Label	\checkmark						
Trip Blank Information	<u>Y or</u>	<u>N</u>	N/A	7. VOCs have headspace				\checkmark				
1. Trip Blank present / cooler			✓	8. Bottles received for unsp	ecified tests		\checkmark					
2. Trip Blank listed on COC			\checkmark	9. Compositing instructions	clear							
	W or	S	N/A	10. Voa Soil Kits/Jars receiv	ved past 48hrs?			\checkmark				
				11. % Solids Jar received?				\checkmark				
3. Type Of TB Received				12. Residual Chlorine Prese	ent?			\checkmark				
Misc. Information												
Number of Encores: 25-Gra	am	5-Gram	Nur	mber of 5035 Field Kits:	Number of La	b Filtered Me	etals:					
Test Strip Lot #s:	pH 0-3	230315	 5 p	H 10-12 219813A	Other: (Spec	ify)						
Residual Chlorine Test Strip L	_ot #:											
Comments												
SM001 Rev. Date 05/24/17 Technic	ian: JORGEC		Date: 6/1/2018	9:30:00 AM R	eviewer: <u>P.H</u>		Date:	6/1/2018				

JC66973: Chain of Custody Page 2 of 2







Dayton, NJ

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

07/16/18 e-Hardcopy 2.0

Automated Report

Reissue #1

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



A. Paul Ioannidis General Manager

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.

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)

This report shall not be reproduced, except in its entirety, without the written approval of SGS. Test results relate only to samples analyzed.

SGS North America Inc. • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499

Please share your ideas about how we can serve you better at: EHS.US.CustomerCare@sgs.com





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,

Keisting Delfan

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!



SGS North Arherica Inc. Mid-Atlantic 2235 US Highway 130 Dayton, NJ 08810, USA t+1 (0)732 329 0200

Member of the SGS Group (SGS SA)



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Sample Summary

Parsons Engineering Science for ILI

JC67103 Job No:

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

Sample Number	Collected Date	Time By	Received	Matr Code		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 quali	ty control requ	lirements.
-	JC67103-4: Analysis performed at SGS Orla	ando, FL.	
-	JC67103-3: Analysis performed at SGS Orla	ando, FL.	
-	JC67103-5: Analysis performed at SGS Orla	ando, FL.	
-	JC67103-1: Analysis performed at SGS Orla	ando, 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	od 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).</p>

Metals Analysis By Method SW846 6020A

	Matrix: AQ	Batch ID:	MP7450
-	All samples were digested within	the recommended metho	d 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).</p>

Metals Analysis By Method SW846 7470A

Γ	Matrix: AQ	Batch ID:	MP7491
-	All samples were digested within	the recommended metho	d 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 metho	d holding time.
	All method blanks for this batch n	neet method specific crite	eria.

- 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 wit	thin the recommended metho	d 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.

Wednesday, June 20, 2018

Page 2 of 3

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

ť	·	
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

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JC67103

Report Date: 6/13/2018 3:32:26

Client: SGS Dayton, NJ Job No:

Site: ILINY: OBGNYA: ILI - Region 5, Clinton County Landfill

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.

Batch ID: OP70380

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ

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-Dichloroetha	ine	0.54 J	1.0	0.21	ug/l	SW846 8260C
1,1-Dichloroethe	ene	0.81 J	1.0	0.47	ug/l	SW846 8260C
1,1,1-Trichloroe	thane	0.71 J	1.0	0.25	ug/l	SW846 8260C
Trichloroethene		1.0	1.0	0.27	ug/l	SW846 8260C
Perfluorobutanoi	c acid ^a	22.7	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentance	bic acid ^a	27.2	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexano	ic acid ^a	29.9	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptano	bic acid ^a	24.9	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoi	c acid ^a	9.40	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanes	sulfonic acid ^a	7.46	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexane	sulfonic 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	Arsenic		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		262	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dis	solved	377	10	1.8	mg/l	SM2540 C-11
Sulfate		59.6	10	2.7	mg/l	EPA 300/SW846 9056A
Total Organic Ca	arbon	1.3	1.0	0.60	mg/l	SW846 9060A
JC67103-2	5-CLI-002-002-02					
1,1-Dichloroethe	ene	1.1	1.0	0.47	ug/l	SW846 8260C
Trichloroethene		0.40 J	1.0	0.27	ug/l	SW846 8260C
Perfluorobutanoi	c acid ^a	24.6	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentance	pic acid ^a	47.2	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexano	ic 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
Perfluoroheptane		4.44	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanes	ulfonic 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

JC67103

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.

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Dayton, NJ

Section 4

Sample Results

Report of Analysis



4



Client San Lab Samj Matrix: Method: Project:	AQ - 0 SW84	03-1 Ground Wa 5 8260C		county	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 2C159475.D	DF 1	Analyzed 06/03/18 17:42	By HT	Prep Date n/a	Prep Batc n/a	h Analytical Batch V2C7081
Run #1 Run #2	Purge Volume 5.0 ml	1					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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JC67103

E = Indicates value exceeds calibration range

J = Indicates an estimated value

	thod: SW846 8260C			Dat	e Sampled: e Received: cent Solids:	05/30/18 06/01/18 n/a	
VOA Specia	ll 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	Lim	its		
1868-53-7	Dibromofluoromethane	106%		80-1	20%		
17060-07-0	1,2-Dichloroethane-D4	106%	81-12				
2037-26-5	Toluene-D8	98%			20%		
460-00-4	4-Bromofluorobenzene	91%		80-1	20%		
CAS No.	Tentatively Identified Con	pounds	R.T.	Est.	Conc.	Units Q	
	Total TIC, Volatile			0		ug/l	

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound

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Client San Lab Samj Matrix: Method: Project:	AQ - SW8	103-1 Ground Wa 46 8270D B			Date Perc	Sampled: 0 Received: 0 ent Solids: n	6/01/18
Run #1 Run #2	File ID 3P68564.D	DF 1	Analyzed 06/05/18 15:04	By	Prep Date 06/04/18 17:00	Prep Batch OP12503A	Analytical Batch E3P3255
D #1	Initial Volum		olume				

Run #1 1050 ml

Run #2

1.0 ml

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	Lim	its	
4165-60-0	Nitrobenzene-d5	83%		29-1	24%	
321-60-8	2-Fluorobiphenyl	75%		23-1	22%	
1718-51-0	Terphenyl-d14	82%		22-1	30%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Client Sam Lab Samp Matrix: Method: Project:	AQ - Q EPA 5	03-1 Ground Wa 37M BY II		County I	Date Perc	Sampled: 0 Received: 0 ent Solids: n	
Run #1 ^a Run #2	File ID 2Q15380.D	DF 1	Analyzed 06/12/18 15:04	By AFL	Prep Date 06/06/18 16:00	Prep Batch F:OP70380	Analytical Batch F:S2Q275
	Initial Volume	Final V	olume				

Run #1 250 ml

Run #2

1.0 ml

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	Lim	its	
	13C4-PFBA	86%		30-1	40%	
	13C5-PFPeA	86%		40-1	40%	
	13C5-PFHxA	95%		50-1	50%	
	13C4-PFHpA	94%		50-1	50%	
	13C8-PFOA	116%		50-1	50%	
	13C9-PFNA	97%		50-1	50%	
	13C6-PFDA	92%		50-1	50%	
	13C7-PFUnDA	81%		50-1	50%	

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

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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.

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

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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
		Percent Solids:	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed I	By	Method	Prep Method
Arsenic	0.00039 J	0.0010	0.00033	mg/l	2	06/02/18	06/03/18 2	ZC	SW846 6020A ¹	SW846 3010A ⁴
Barium	0.0278 J	0.20	0.0013	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Beryllium	ND	0.0010	0.00040	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Boron	ND	0.10	0.013	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Chromium	ND	0.010	0.00085	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Copper	ND	0.010	0.0032	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Iron	ND	0.10	0.032	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Lead	ND	0.0030	0.0026	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Manganese	0.00060 J	0.015	0.00042	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Mercury	ND	0.00020	0.00013	mg/l	1	06/05/18	06/05/18 I	DP	SW846 7470A ³	SW846 7470A ⁶
Nickel	0.0025 J	0.010	0.0013	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Selenium	ND	0.010	0.0066	mg/l	1	06/02/18	06/05/18 H	EAL	SW846 6010C ²	SW846 3010A ⁵
Thallium	ND	0.0010	0.00004	7 mg/l	2	06/02/18	06/03/18 z	ZC	SW846 6020A ¹	SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	06/02/18	06/05/18 H	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

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ND = Not detected $J = \ Indicates \ a \ result > = \ MDL \ but < \ RL$



SGS LabLink@1006845 10:46 16-Jul-2018

Client Sample ID: Lab Sample ID:	5-CLI-002-002-01 JC67103-1	Date Sampled:	05/30/18	4
Matrix:	AQ - Ground Water	Date Received: Percent Solids:		4
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill			

Report of Analysis

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.

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Client San Lab Samj Matrix: Method: Project:	ple ID: JC67 AQ - SW8	I-002-002-0 103-2 Ground Wa 46 8260C NYA: ILI -		County		Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 2C159476.D	DF 1	Analyzed 06/03/18 18:11	By HT	Prep Date n/a	Prep Batch n/a	n Analytical Batch V2C7081
Run #1 Run #2	Purge Volum 5.0 ml	le					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 1 of 2

E = Indicates value exceeds calibration range

J = Indicates an estimated value

Client Samp Lab Sample Matrix: Method: Project:		ion 5, Clintor	n County L	andfill	Dat	e Sampled: e Received: cent Solids:	05/30/18 06/01/18 n/a
VOA Specia	ll 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	Limi	its		
1868-53-7	Dibromofluoromethane	107%		80-1	20%		
17060-07-0	1,2-Dichloroethane-D4	108%		81-1			
2037-26-5	Toluene-D8	99%		80-1	20%		
460-00-4	4-Bromofluorobenzene	92%		80-1	20%		
CAS No.	Tentatively Identified Com	pounds	R.T.	Est.	Conc.	Units Q	
	Total TIC, Volatile			0		ug/l	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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SGS

Lab Sam	-	03-2				Sampled: (
Matrix:	AQ - 0	Ground Wa	ater		Date	Received: (06/01/18
Method:	SW84	5 8270D B	Y SIM SW846 351	0C	Perc	ent Solids: r	n/a
Project:	OBGN	YA: ILI -	Region 5, Clinton C	County	Landfill		
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	File ID 3P68565.D	DF 1	Analyzed 06/05/18 15:25	•	Prep Date 06/04/18 17:00	Prep Batch OP12503A	Analytical Batch E3P3255
Run #1 Run #2		DF 1	•	•	-	-	•

Run #1 1050 ml

Run #2

$1.0 \ ml$

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	Lim	its	
4165-60-0	Nitrobenzene-d5	76%		29-1	24%	
321-60-8	2-Fluorobiphenyl	68%		23-1	22%	
1718-51-0	Terphenyl-d14	73%		22-1	30%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Lab Samp		3-2				1	05/30/18
	Matrix: AQ - Ground Water					Received: (
Method:	EPA 53	37M BY I	D EPA 537 MOD		Perc	ent Solids: n	ı/a
Project:	OBGN	YA: ILI -	Region 5, Clinton C	County I	Landfill		
				_			
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	File ID 2Q15382.D	DF 1	Analyzed 06/12/18 16:14	•	Prep Date 06/06/18 16:00	Prep Batch F:OP70380	Analytical Batch F:S2Q275
Run #1 ^a Run #2 ^a		DF 1 1	U	AFL	-	F:OP70380	•

Page 1 of 2

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	Lim	its	
	13C4-PFBA	101%		30-1	40%	
	13C5-PFPeA	104%		40-1	40%	
	13C5-PFHxA	109%		50-1	50%	
	13C4-PFHpA	115%		50-1	50%	
	13C8-PFOA	131%		50-1	50%	
	13C9-PFNA	118%		50-1	50%	
	13C6-PFDA	104%		50-1	50%	
	13C7-PFUnDA	92%		50-1	50%	

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



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

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

(a) Analysis performed at SGS Orlando, FL.

(b) Result is from Run# 2

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

4.2 4

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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
		Percent Solids:	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed 1	By	Method	Prep Method
Arsenic	0.00069 J	0.0010	0.00033	mg/l	2	06/02/18	06/03/18 2	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 1	EAL	SW846 6010C ²	SW846 3010A ⁵
Lead	ND	0.0030	0.0026	mg/l	1	06/02/18	06/05/18 1	EAL	SW846 6010C ²	SW846 3010A ⁵
Manganese	0.0014 J	0.015	0.00042	mg/l	1	06/02/18	06/05/18 1	EAL	SW846 6010C ²	SW846 3010A ⁵
Mercury	ND	0.00020	0.00013	mg/l	1	06/05/18	06/05/18 1	DP	SW846 7470A ³	SW846 7470A ⁶
Nickel	ND	0.010	0.0013	mg/l	1	06/02/18	06/05/18 1	EAL	SW846 6010C ²	SW846 3010A ⁵
Selenium	ND	0.010	0.0066	mg/l	1	06/02/18	06/05/18 1	EAL	SW846 6010C ²	SW846 3010A ⁵
Thallium	ND	0.0010	0.000047	7 mg/l	2	06/02/18	06/03/18 2	ZC	SW846 6020A ¹	SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	06/02/18	06/05/18 1	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

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SGS LabLink@1006845 10:46 16-Jul-2018

Client Sample ID:				
Lab Sample ID:	JC67103-2	Date Sampled:	05/30/18	Ň
Matrix:	AQ - Ground Water	Date Received:	06/01/18	
		Percent Solids:	n/a	4
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill			
				ļ

Report of Analysis

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.





Client San Lab Samp Matrix: Method: Project:	AQ - EPA :	03-3 Field Blank 537M BY I		County I	Date Perc	Sampled: 0 Received: 0 ent Solids: n	
Run #1 ^a Run #2	File ID 2Q15383.D	DF 1	Analyzed 06/12/18 16:39	By AFL	Prep Date 06/06/18 16:00	Prep Batch F:OP70380	Analytical Batch F:S2Q275
	Initial Volum	e Final V	olume				

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	Lim	its	
	13C4-PFBA	117%		30-1	40%	
	13C5-PFPeA	118%		40-1	40%	
	13C5-PFHxA	120%		50-1	50%	
	13C4-PFHpA	118%		50-1	50%	
	13C8-PFOA	138%		50-1	50%	
	13C9-PFNA	112%		50-1	50%	
	13C6-PFDA	101%		50-1	50%	
	13C7-PFUnDA	90%		50-1	50%	

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



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 13C2-PFTeDA	89% 94%		50-150% 40-150%
	13C3-PFBS 13C3-PFHxS	114% 113%		50-150% 50-150%
	13C8-PFOS 13C8-FOSA	91% 105%		50-150% 30-140%
	d3-MeFOSAA 13C2-6:2FTS	83% 120%		50-150% 50-150%
	13C2-8:2FTS	88%		50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Associated BS recovery outside control limits.

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

4.3

4



Client San Lab Samp Matrix: Method: Project:	le ID: JC67 AQ - EPA			ounty I	Date Perc	Sampled: 0 Received: 0 ent Solids: n	
Run #1 ^a Run #2	File ID 2Q15384.D	DF 1	Analyzed 06/12/18 17:04	By AFL	Prep Date 06/06/18 16:00	Prep Batch F:OP70380	Analytical Batch F:S2Q275
	Initial Volun	ne Final V	olume				

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	Lim	its	
	13C4-PFBA	108%		30-1	40%	
	13C5-PFPeA	110%		40-1	40%	
	13C5-PFHxA	117%		50-1	50%	
	13C4-PFHpA	114%		50-1	50%	
	13C8-PFOA	137%		50-1	50%	
	13C9-PFNA	121%		50-1	50%	
	13C6-PFDA	113%		50-1	50%	
	13C7-PFUnDA	95%		50-1	50%	

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

4.4

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JC67103

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 13C2-PFTeDA	84% 93%		50-150% 40-150%
	13C3-PFBS	110%		50-150%
	13C3-PFHxS 13C8-PFOS	117% 109%		50-150% 50-150%
	13C8-FOSA d3-MeFOSAA	116% 91%		30-140% 50-150%
	13C2-6:2FTS 13C2-8:2FTS	122% 99%		50-150% 50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Associated BS recovery outside control limits.

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

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JC67103

Client Sam Lab Sampl Matrix: Method: Project:	AQ - E EPA 53)3-5 quipment B 37M BY ID		ounty L	Date Perc	Sampled: Received: ent Solids:	
Run #1 ^a Run #2	File ID 2Q15385.D	DF 1	Analyzed 06/12/18 17:30	By AFL	Prep Date 06/06/18 16:00	Prep Batcl F:OP70380	·
Run #1	Initial Volume 250 ml	Final Vo 1.0 ml	lume				

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	Lim	its	
	13C4-PFBA	101%		30-1	40%	
	13C5-PFPeA	103%		40-1	40%	
	13C5-PFHxA	106%		50-1	50%	
	13C4-PFHpA	108%		50-1	50%	
	13C8-PFOA	124%		50-1	50%	
	13C9-PFNA	108%		50-1	50%	
	13C6-PFDA	105%		50-1	50%	
	13C7-PFUnDA	89%		50-1	50%	

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





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

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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.

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)

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			CHAIN-OF-CUS		_			Junien	L			—		57	-					
Section A Laboratory Inform	nation) 								co	C #:	5	-Cl	.I-C	02	-				
Lab Name: SGS - Accutest	Name: 565 - Acculest			Company:	Parsons	/OBG				Proj										
Attention: Tammy Esposito McClo	oskey			Attention:	Scott Tu	icker				Nam		<u>_µ</u>	ILI - Region 5							
Address: Route 2235 Route 130); Dayto	on, NJ	08810	Address:		t Washingt		PO Box 4	873	Proj Site:			lint	'nn	Co	unf	57 I	and	fill	
Phone: 732-329-0200			Phone:	315-956	e <u>, NY 13221</u> 6345				Proj				61		un	<u> </u>	and		-	
			Email:	Scott.Tu	cker@obg.c	com			Num		ervat				wate	er on	<u>lv):</u>		_	
Email:												1 0						1	H	
Section C Deliverable Requi	ireme	nts		Purchase C	Order No:	118006							Mod.81		y,					
Report To: Scott.Tucker@obg.	com			TAT - 10 C	ay							PAHS	in Met/I		SO4/CHI/					
Copy To: Lorraine Weber@parsons.co			0-1										Hard-60		/BRO/TOS	Alka	¥.			
Maryanne.Kosciewicz@par Deliverables: Level 2, CAT B Ri			ere anno arte ante vallende adapte accuser acterizatione entre entre entre entre entre entre entre entre entre	Section D	Additio	nal Info	rmation	1		Compo	PFAS M	- Dioxan	Met/Hard-6010/7470/SM20 23400		- SO		monia 3			
	Start	End	l	Sample	Sample		Sample		# of	MS/MSD	dified	e-8270	SH20 23	COD 41	/SM25	- SM20 23208	50.1/St			
Location ID	Depth (ft)	Depth (ft)	Field Sample ID MUST BE UNIQUE	Date	Time	Purpose	Matrix	Туре	Cont.	#Bottl		3 2		2 3			1 No	-+	++	-
1 5- ULI -002-002-MW				5-30-18	1055		WG	N	13			3 2		1 1	ī	li	i	+	Ħ	
25-CLI-02-02-MWA					1050	~~	WG	N	12		2	51	ί	1 1	, I	1	1	+	Ħ	ER
35-CLI-002-027-F.eld	the second se		5-017-02-03				WQ	FB	2		2			-				-	Ħ	۹ ٦
45- UL I - 012-002 - Fich (2)	_		5-CLI -002-002-04	5-30-13		-	WQ	Ēß	2		5	+-		1	1	-			ht	G
5- tt1 - oc 2 - er 2 - Field QC			5-112-032-05	5-30-18			wQ	ŦB	6			3-		-	-	+			Ħ	142
65-42-002-002- FieldQC			5-012-002-002-06	5-30-18			wo	EB	3		5	-		-	-			+	+	
		_	Max.		+		<u> </u>					+	$\left \right $	+	+	+ -			$\left\{ \right\}$	-119
-7	INIT	AL AS	ESSMENT 27		+	N					┼╍┼				+-	+		-+	╀╋	106
8						PLES RE	CENTER							_	+-		\vdash		╀╌╄	-
9	LAB	L VER	FICATION				ł	<u> </u>			+	+	L.		_	\downarrow			\vdash	-1
10						N AS AP														
Special Instructions: Sample	5- Ci	-1-c	002-002-02 days	tot have	~F 2	Liter ar	mber 3h	uss fer	PAH	- ۲	400	rune	33	<i>ت</i> ہ !	334	ч.				
50 5-01-002-002-0	5 8	ucs no	+ exist, field team	ran out or	late Su	111:22 +1	ip mant	c5,												
						•														
amplers Name: 50: Perly & John Guldner	Company:	036		Relinquished By:	212	Company: Date/Time: 4	OBG-	<i></i>		Cooler 1	Temp.: 1 Ice: Ye			_						
hipment Method:	Shipment T	racking No:	-18 1730 -1357 6346 31045	Accepted By:	02	Company:	5 - 30 -	10 1 cc	. <u>0</u>	Cooler T		50 100						Yes G		-
Fedex	Date/Time:	5-3	0-18 18:0 04]; [4 = NaOH]; [5 = Zn Acetate]	FED	EC	Date/Time:				Rec'd or	Ice: Y	s D N	0 🖸	Sa	mples	Intact:	Yes		ā	1

JC67103: Chain of Custody Page 1 of 5

SGS



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SGS Sample Receipt Summary

Job Number:	JC67103	Client:	PARSONS	Project: OBGNYA: ILI - RE	GION 5, CLINTON COUNTY L										
Date / Time Received:	6/1/2018 9:	20:00 AM	Delivery Method:	Airbill #'s:											
Cooler Temps (Raw Mea Cooler Temps (Corr															
Cooler Security 1. Custody Seals Present: 2. Custody Seals Intact: Cooler Temperature 1. Temp criteria achieved: 2. Cooler temp verification: 3. Cooler media: 4. No. Coolers: Cuality Control Preserve 1. Trip Blank present / cool 2. Trip Blank listed on COC 3. Samples preserved prop 4. VOCs headspace free:	✓ ✓	3. COC P	us,/Time OK ☑	 Sample Integrity - Documentation 1. Sample labels present on bottles: 2. Container labeling complete: 3. Sample container label / COC agree: Sample Integrity - Condition 1. Sample Integrity - Condition 1. Sample recvd within HT: 2. All containers accounted for: 3. Condition of sample: Sample Integrity - Instructions 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: 	Y or N ♥ □ □ ♥ 0 □ ♥ 0 □ ♥ 0 □ ♥ 0 □ ♥ 0 □ Intact □ □ ♥ 0 □ ♥ 0 □ ♥ 0 □ ♥ 0 □ ♥ 0 □ ♥ □ □ ♥ □ □ ● □ ●										
Test Strip Lot #s:	pH 1-12:	216017	pH 12+:	208717 Other: (Specify)											
Comments															

SM089-03 Rev. Date 12/7/17

JC67103: Chain of Custody Page 2 of 5



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SGS Sample Receipt Summary

Job Number:	JC67103	Client: P	PARSONS		Project: OBGNYA: ILI - REG		COUNTY L					
Date / Time Received: 5/31/2018 10:00:00 AM		DAM C	Delivery Method:	FedEx	Airbill #'s: 435763465155							
Cooler Temps (Raw Mea	sured) °C: Coole	r 1: (2.4);(Cooler 2: (2.2);									
Cooler Temps (Corr	ected) °C: Coole	r 1: (2.4);(Cooler 2: (2.2);									
Cooler Security	Y or N		Y or N	Sample Integ	rity - Documentation	Yo	r N					
1. Custody Seals Present:		3. COC Pre	sent:	1. Sample labe	els present on bottles:	\checkmark						
2. Custody Seals Intact: 🗹 🗌 4. Smpl Da			Time OK 🔽 🗌	2. Container la								
Cooler Temperature	Y or N	_		3. Sample con	tainer label / COC agree:	\checkmark						
1. Temp criteria achieved:				Sample Integ	grity - Condition	<u>Y</u> 0	<u>r N</u>					
2. Cooler temp verification:	-			1. Sample recv	/d within HT:	\checkmark						
3. Cooler media:	lce (Bag)		2. All containe	rs accounted for:	\checkmark						
4. No. Coolers:	2			3. Condition of	sample:	Intact						
Quality Control Preserv	ation <u>Yor</u> N	N/A		Sample Inter	grity - Instructions	Yo	r N	N/A				
1. Trip Blank present / cool	er: 🗌 🔽				quested is clear:							
2. Trip Blank listed on COC	: 🗆 🗹			1 '	eived for unspecified tests							
3. Samples preserved prop	erly: 🔽				olume recvd for analysis:							
4. VOCs headspace free:					g instructions clear:			\checkmark				
				· ·	structions clear:			\checkmark				
Test Strip Lot #s:	рН 1-12:	216017	pH 12+:	208717	Other: (Specify)							
2) Did not rece	not receive PFA volu- volume of 1x 1000ml	-B and EB.	4DioxaneSIM									

SM089-03 Rev. Date 12/7/17

JC67103: Chain of Custody Page 3 of 5



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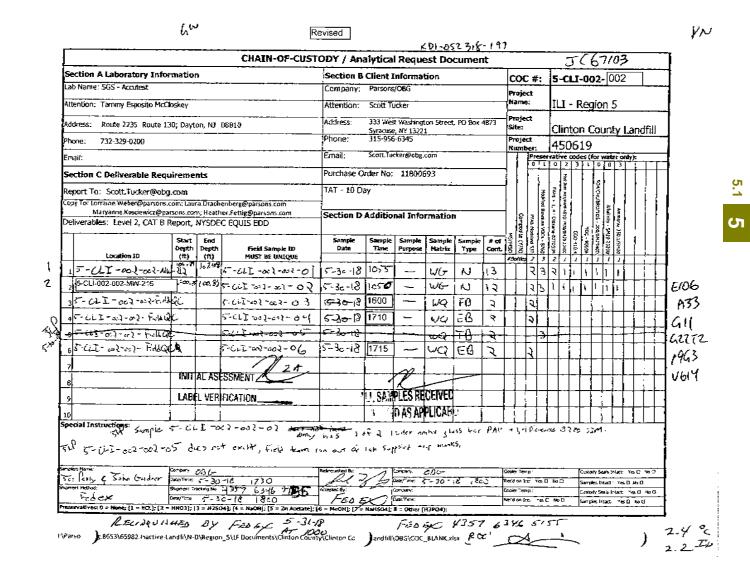
	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			CHAIN-OF-CUST	ODY / Ana	lytical	Reque	est Doo	umen	t				5	50	6	7/0	03			1
Section A Laboratory Information					Section B Client Information							:#:	5	5-CLI-002-002						1	
ab	Name: SGS - Accutest	Company: Parsons/OBG							ct	T	2015 1.1 1.1 1.1 1.1					1					
Attention: Tammy Esposito McCloskey						Attention: Scott Tucker							I	ILI - Region 5							1
Address: Route 2235 Route 130; Dayton, NJ 08810					Address: 333 West Washington Street, PO Box 4873 Site:							ct	Clinton County Landfill							1.	
Phone: 732-329-0200					Phone: 315-956-6345 Pro									-		the second se				1	
Email:					Email: Scott.Tucker@obg.com						Numi	Pres	erva	450619 rvative codes (for water only):							
	tion C Deliverable Requ	Income			Purchase Order No: 11800693							0	1 0	2	3	1 (0	3		-	
-			ins		TAT - 10 Da			and the second					PA	od.Bsin 7		SO4/CHU					
	ort To: Scott.Tucker@obg. To: Lorraine.Weber@parsons.c		a.Drach	enberg@parsons.com		.,							Hs + 1,	Met/Hard		HUBRO	R				
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com				Section D Additional Information							PFAS	4 - Dio Baselin	5-6010/74		/BRO/TDS -	Railnity	Ammon	11		9	
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD									Composite (Y/N) MS/MSD	S Modifi	e VOCs	670/SM20	COD	NS/00E	- SM20	ia 350.1	11				
	Location ID	Start Depth (ft)	(ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	te (Y/N) MS/MSD #Bottle		VOCs - 8260 m		COD 410,4 11		SM20 23208 14	350.1/SM20			
1	5-UI-002-002-NW	-212	107.58	5-012-002-001-01	5-30-18	1055	-	WG	N	13		2	3 3	1	1 1	1	1	1			
2	- CLI - 302- 302-MWA	17:00.8	100,85	5-612-02-02	5-30-18	1050	-	WG	N	12		2	51	1	1	1	1	1			EIO
3	T-CLI-002-002-Field	qi	-	5-0-5002-03	5-10-18	1600	-	WQ	FB	2		2									A3
4	- ULI - 012 - 002 - Fich Q	Ċ		5-011-002-002-04	530-12	1710	-	WQ	EB	2		2									GI
5	-ett-orl-erl- Fulla			5-61 2-002-05	5-30-18		100	00	TB-	2			3-	-	-	Ŧ	-				422
	5-CLI- 002-002- FiddQC		102	5-612-002-06	5-30-18	1715	-	wq	EB	2		2	T					10			196
7	for the second	1		124		1.1.1.1	\sim	1.5.1		1.11	11	T									
8	1	INIT	AL AS	SSMENT	1.1	1	1		-		H.										V61
9		LAB	L VER	FICATION		LI.SAM	PLES RE	CEIVED		197					1						
10	18 18 2 1 minut		1000		FT	1 -2	DASAP	PLICAB	9				T			T					
5 LP	5-011-002-002-0	Company:	on con	t exist, field team	has 1 has 1 ran out of Relinquished By:	of 2 1 Ish Su	111:00 +	mhir 3 hi 1.p miant	135 4=r 55,	PAH	T }		≪ uni∉	2				ntact: '	Yes D M	40 D	
So. Letty & Sohn Guidner Date Time - Duris 1730				ful 7 5 Date/Time: 5-30-18 1800 R						1.2.2	d on Ice: Yes CI No D			Sa	Samples Intact : Yes D No D Custody Seals Intact: Yes D No D						
	Fedex	Date/Time:	Tacking No:	4357 6346 9785 6-18 18:0 04]; [4 = NaOH]; [5 = Zn Acetate];		EO.	Company: Date/Time:				Cooler Te Rec'd on		es O I	No 🖾	_	100.04	-		Yes D I	No 🗆	

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JC67103: Chain of Custody Page 5 of 5

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	CUC			CHAIN	N O	FC	UST	ΟΙ	ЭY	,												-	1 of	1
	JUJ													1	(Tracking	*					rder Cont	rol #		
	I			2235 J TEL. 732-32			, NJ 0881 2-329-349		0					SGS Q	aote #					SGS Jo	b#	J	C67103	1
	nt / Reporting Information			Project										Requested Analysis (see TEST CODE sheet) Matrix Code				Matrix Codes						
	ny Name:	Project Name:																						DW - Drinking Water
	S North America Inc.		OBG	VYA: ILI - Regi	on 5, Cl	inton C	ounty La	ndfill																GW - Ground Water
Street A	ddress 5 Route 130	Street												-										WW - Water SW - Surface Water
City		Sip City		State	Company		on (if diffe	rent fr	omR	eport t	o)			~										SO - Soil SL- Sludge
Day															ł.					1			Ì	SED-Sediment OI - Cil
	Contact E-mail	Project #			Street Ac	ldress																		LIQ - Other Liquid AIR - Air
Kris Phone #	tin.degraw@sgs.com #	ax# Client Purchase	Order #		City			s	State			Zip		-										SOL - Other Solid WP - Wipe
	-329-0200																	1					i I	FB-Field Blank
	r(s) Name(s)	Phone Project Manage	r		Attention	:								1.										EB-Equipment Blank RB- Rinse Blank
ST			1	Collection				1		per of pre				12										TB-Trip Blank
				Collection				ŀт	1	T				LCID537NY21								·		
SGS Semple #	Field ID / Point of Collection	MECH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	Ŧ	HN03 HN03	+ +	NONE Di Weter	WEOH	ENCORE		ļ	ļ								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	1									
3	5-CLI-002-002-03		5/30/18	12:00:00 AM	ST	AQ	2				2			X										
4	5-CL1-002-002-04		5/30/18	12:00:00 AM	ST	AQ	2				2			X										
5	5-CL1-002-002-06		5/30/18	12:00:00 AM	ST	AQ	2	Π		1	2			X		1								
								П	Τ															
								ÌT	1															
									-		1													
		-		-		-		$\left \right $	+		+	+	+											
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								\vdash	+	++		+	-		1.									
								\vdash		╉╌┼╴	+	+	-								-			
							Data	Deline		e Inforr									Com	ments /	Casala) bostraw	tiono	
	Turnaround Time (Business days)	Approved By (SG	PMI: / Date:			Commerc	ial "A" (L			_		VYASP	Cate	gory A		1			0011	incinca /	opecia	1 10 10 10 10 10		
i	📺 Std. 10 Business Days					Commerc	ial "B" (L	evel 2)			5,	YASP	Cate	gory B										
	5 Day RUSH						(Level 3+4))				State F												
	3 Day EMERGENCY					J Reduc						DD F												
	2 Day EMERGENCY 1 Day EMERGENCY					Commerc	Commerce	ial "A"	= Res			Aner 1	NTA.	3-0		1							,	
	X other 14						Commerc	ial "B"	= Res	sults + (ac s												Λ	
Eme	rgency & Rush T/A date available VIA Labiink		Sample Cust	tody must be d	ocument	ed belo	NJ Reduc weach tir									l rier delir	very.				H	-/	/	915
Relino		ute Tin 1700 6-43	Received By:		FED		~	Relinq				A		Ey			Date Tir	le:		Receive	た	-/{	<u> </u>	06/05/18
Relina 3		ate Time:	Received By:	/		7		Relinq 4	ulshe	d By:				_/			Date Tirr	ie:	4	Received	d By:	1		
Relina	uished by: D	ate Time:	Received By:					Custo	dy Sea	5	PP	,		Intact Not inta	at	Preserve	d where a	applicable			-/	On lo		Cooler Temp.
																								0.6

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

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5.2

SGS Sample Receipt Summary

Job Number: JC6	7103		Client	ALNJ		Project: OBGNYA			
Date / Time Received: 6/5/2	2018 9:1	5:00 AN	1	Delivery	Method: FED EX	Airbill #'s: 10018917	106100032	81100	563393517551
Therm ID: IR 1;				Therm C	:F: 0.4;	# of Coole	rs: 1		
Cooler Temps (Raw Meas	sured) °(C: Coo	ler 1: (1.	6);					
Cooler Temps (Corr	ected) °(C: Coo	ler 1: (2.	0);					
Cooler Information	<u> </u>	′ or	N		Sample Information		Y or	N	N/A
1. Custody Seals Present					1. Sample labels prese	ent on bottles	✓		
2. Custody Seals Intact					2. Samples preserved	properly	✓		
3. Temp criteria achieved					3. Sufficient volume/co	ontainers recvd for analysis:			
4. Cooler temp verification	<u>IF</u>	R Gun			4. Condition of sample	1	Intact		
5. Cooler media	lc	<u>;e (Bag)</u>			5. Sample recvd within	1 HT	\checkmark		
					6. Dates/Times/IDs on	COC match Sample Label	\checkmark		
Trip Blank Information	<u> </u>	or	<u>N</u> .	N/A	7. VOCs have headsp	ace			
1. Trip Blank present / cooler	C			\checkmark	8. Bottles received for	unspecified tests		\checkmark	
2. Trip Blank listed on COC	Ľ			\checkmark	9. Compositing instruc	tions clear			
		N or	S	N/A	10. Voa Soil Kits/Jars	received past 48hrs?			
		_			11. % Solids Jar receiv	ved?			
3. Type Of TB Received	L				12. Residual Chlorine	Present?			
Misc. Information									
Number of Encores: 25-0	Gram		5-Gram		Number of 5035 Field Kits:	Number of La	ab Filtered M	etals:	
Test Strip Lot #s:				15	pH 10-12 219813A				
Residual Chlorine Test Stri					·				
Comments									
SM001 Techr Rev. Date 05/24/17	nician: <u>S</u>	HAYLAF)	Date:	6/5/2018 9:15:00 AM	Reviewer: P.H		Date:	6/5/2018

JC67103: Chain of Custody Page 2 of 2







Dayton, NJ

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

e-Hardcopy 2.0 Automated Report

07/16/18

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



A. Paul Ioannidis General Manager

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.

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)

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SGS North America Inc. • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499

Please share your ideas about how we can serve you better at: EHS.US.CustomerCare@sgs.com



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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	Matr Code		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

|--|

- 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

Friday, June 15, 2018

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5 of 29 SGS



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

ILINY: OBGNYA: ILI - Region 5, Clinton County Landfill Site:

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

(a) Analysis performed at SGS Orlando, FL.

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

Lab Sample ID Client Sample ID Analyte	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

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SGS



Dayton, NJ

Section 4

Sample Results

Report of Analysis



4



Client Sa Lab Samj Matrix: Method: Project:	AQ - 0 SW84	62-1 Ground W 6 8260C		ounty	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 2E143594.D	DF 1	Analyzed 06/05/18 18:48	By SS	Prep Date n/a	Prep Batc n/a	h Analytical Batch V2E6285
Run #1 Run #2	Purge Volume 5.0 ml	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

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound



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E = Indicates value exceeds calibration range

J = Indicates an estimated value

	ple ID: 5-CLI-002-003-0	l						
Lab Sampl	e ID: JC67162-1				Date	Sampled:	05/31/18	
Matrix:	AQ - Ground Wa	ter			Date	Received:	06/01/18	
Method:	SW846 8260C				Perce	ent Solids:	n/a	
Project:	OBGNYA: ILI -	Region 5, Clinto	n County	Landfill				
VOA Speci	al List							
CAS No.	Compound	Result	RL	MDL	Units	Q		
74.05.2		ND	1.0	0.45	(1			

,	C		•				
VOA Specia	al 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	Limi	ts		
1868-53-7	Dibromofluoromethane	105%		80-12	20%		
17060-07-0	1,2-Dichloroethane-D4	96%		81-12	24%		
2037-26-5	Toluene-D8	106%		80-12	20%		
460-00-4	4-Bromofluorobenzene	99%		80-12	20%		
CAS No.	Tentatively Identified Compo	ounds	R.T.	Est.	Conc.	Units	Q
	Total TIC, Volatile			0		ug/l	

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

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



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Client San Lab Samp Matrix: Method: Project:	le ID: JC671 AQ - 0 SW84	Ground Wa 5 8270D B			Date Perc	Sampled: 0. Received: 0 ent Solids: n.	6/01/18
Run #1 Run #2	File ID 3P68566.D	DF 1	Analyzed 06/05/18 15:47	By JB	Prep Date 06/04/18 17:00	Prep Batch OP12503A	Analytical Batch E3P3255
Run #1	Initial Volume 1050 ml	Final V 1.0 ml	olume				

Run #1

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	Lim	its	
4165-60-0	Nitrobenzene-d5	84%		29-1	24%	
321-60-8	2-Fluorobiphenyl	76%		23-1	22%	
1718-51-0	Terphenyl-d14	84%		22-1	30%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1



Client San Lab Samp Matrix: Method: Project:	AQ - G EPA 53	2-1 round Wa 37M BY II		ounty I	Date Perc	Sampled: 0 Received: 0 ent Solids: r	
	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
Run #1	Initial Volume 220 ml	Final V 1.0 ml	olume				

PFAS List

220 ml

1.0 ml

Run #2

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	Limi	ts	
	13C4-PFBA	78%		30-1-	40%	
	13C5-PFPeA	88%		40-1-	40%	
	13C5-PFHxA	98%		50-1	50%	
	13C4-PFHpA	101%		50-1	50%	
	13C8-PFOA	123%		50-1	50%	
	13C9-PFNA	120%		50-1	50%	
	13C6-PFDA	91%		50-1	50%	
	13C7-PFUnDA	77%		50-1	50%	

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

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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 13C8-PFOS	100%	81%	50-150% 50-150%
	13C8-FOSA	86%	01%	30-130%
	d3-MeFOSAA	114%		50-140%
	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

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

4.1

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Client Sar Lab Samp Matrix: Method: Project:	AQ - 0 SW84	62-2 Ground Wa 6 8260C		ounty	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 2E143595.D	DF 1	Analyzed 06/05/18 19:17	By SS	Prep Date n/a	Prep Batc n/a	h Analytical Batch V2E6285
Run #1 Run #2	Purge Volume 5.0 ml)					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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E = Indicates value exceeds calibration range

J = Indicates an estimated value

Toject.	oboly 1A. 121 - Region 5, Chinon County Landin		
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		
Method:	SW846 8260C	Percent Solids:	n/a
Matrix:	AQ - Ground Water	Date Received:	06/01/18
Lab Sample ID:	JC67162-2	Date Sampled:	05/31/18
Client Sample ID:	5-CLI-002-003-02		

VOA Special List

CAS No.	Compound	Result	RL	MDL	L 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	Li	mits		
1868-53-7	Dibromofluoromethane	106%		80	0-120%		
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 Compo	ounds	R.T.	Es	st. Conc.	Units	Q
	aldehydes		15.44	18	3	ug/l	J
	Total TIC, Volatile			18		ug/l	J

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

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

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Client Sa Lab Sam Matrix: Method:	AQ -	162-2 Ground Wa		0C	Date	Sampled: (Received: (ent Solids: r	06/01/18
Project:			Region 5, Clinton C				
	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							

Run #1 1000 ml

Run #2

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	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	Lim	its	
4165-60-0	Nitrobenzene-d5	81%		29-1	24%	
321-60-8	2-Fluorobiphenyl	62%		23-1	22%	
1718-51-0	Terphenyl-d14	63%		22-1	30%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Client San Lab Samp Matrix: Method: Project:	le ID:	JC67162 AQ - Gr EPA 537	2-2 ound Water 7M BY ID	r EPA 537 MOD egion 5, Clinton C	County L	Date Perc	Sampled: Received: ent Solids:	
Run #1 ^a Run #2	File ID 2Q1538	9.D	DF 1	Analyzed 06/12/18 19:11	By AFL	Prep Date 06/06/18 16:00	Prep Batch F:OP70380	·
	Initial V	olume	Final Vol	ume				

Run #1 1.0 ml 250 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	Lin	nits	
	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



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.

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

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Run #1 ^a Run #2	2Q15391.D	DF 1	Analyzed 06/12/18 20:01	By AFL	Prep Date 06/06/18 16:00	Prep Batch F:OP70380	Analytical Batch F:S2Q275
Project:			Region 5, Clinton C		Landfill		
Client San Lab Samp Matrix: Method:	AQ	7162-3 - Field Blank			Date	Sampled: 0 Received: 0 ent Solids: n	

Run #1 250 ml

Run #2

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	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	Lim	its	
	13C4-PFBA	104%		30-1	40%	
	13C5-PFPeA	105%		40-1	40%	
	13C5-PFHxA	111%		50-1	50%	
	13C4-PFHpA	105%		50-1	50%	
	13C8-PFOA	119%		50-1	50%	
	13C9-PFNA	98%		50-1	50%	
	13C6-PFDA	83%		50-1	50%	
	13C7-PFUnDA	71%		50-1	50%	

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



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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 13C2-PFTeDA	71% 77%		50-150% 40-150%
	13C3-PFBS 13C3-PFHxS	102% 104%		50-150% 50-150%
	13C8-PFOS	72%		50-150%
	13C8-FOSA d3-MeFOSAA	102% 71%		30-140% 50-150%
	13C2-6:2FTS 13C2-8:2FTS	105% 72%		50-150% 50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Associated BS recovery outside control limits.

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

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Client Sar Lab Samp Matrix: Method: Project:	AQ - 1 SW846	62-4 Trip Blank 5 8260C		ounty	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 2E143589.D	DF 1	Analyzed 06/05/18 16:26	By SS	Prep Date n/a	Prep Batc n/a	h Analytical Batch V2E6285
Run #1 Run #2	Purge Volume 5.0 ml						

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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E = Indicates value exceeds calibration range

J = Indicates an estimated value

Client Sample II Lab Sample ID: Matrix: Method: Project:	D: 5-CLI-002-003- JC67162-4 AQ - Trip Blan SW846 8260C OBGNYA: ILI		n County	Landfill	Date	Sampled: Received: ent Solids:	05/31/18 06/01/18 n/a
VOA Special Lis CAS No. Cor	t npound	Result	RL	MDL	Units	0	

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.	Summagata Dagawamiag	Run# 1	Run# 2	Limi	t a		
CAS NO.	Surrogate Recoveries	KUN# 1	KUN# 2	LIM	ts		
1868-53-7	Dibromofluoromethane	103%		80-12	20%		
17060-07-0	1,2-Dichloroethane-D4	94%		81-12	24%		
2037-26-5	Toluene-D8	105%		80-12	20%		
460-00-4	4-Bromofluorobenzene	101%		80-12	20%		
CAS No.	Tentatively Identified Compo	ounds	R.T.	Est.	Conc.	Units	Q
	Total TIC, Volatile			0		ug/l	
	Total Tie, Volutile			U		46/1	

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

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



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SGS



Misc. Forms

Dayton, NJ

Custody Documents and Other Forms

Includes the following where applicable:

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



Section A Laboratory InformationSection B Client InformationCOC #:5-CLI-002- ∞ 3Lab Name: SGS - AccutestCompany: Parsons/OBGProjectAttention: Tammy Esposito McCloskeyAttention: Scott TuckerName:Address: Route 2235 Route 130; Dayton, NJ 08810Address: 333 well Washington Street, PO Box 4873 Syrackey, Washington Street, PO Box 4873ProjectPhone: 732-329-0200Phone: 315-956-6345ProjectEmail:Scott.Tucker@obg.comProjectSection C Deliverable RequirementsPurchase Order No: 11800693Maryane.Kosciewicz@parsons.com; Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDDSample Sample Sample Matrix Time PurposeSample Sample Matrix Time Purpose1 $5^{-CLI-002-003-}$ AW-213 $5^{-CLI-002-003-}$ 2Scott.Tucker@obg.comField Sample ID MUST BE UNIQUESample Sample Sample Matrix Time Purpose1 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 2Scott.Tucker@obg.comSample Sample Sample Matrix Time Purpose 7^{-10} 01 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 1 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 2Scott.Tucker@obg.com 7^{-10} 01 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 1 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 1 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 1 $5^{-CLI-002-003-}$ $5^{-CLI-002-003-}$ 2Scott.Tucker@obg.com $5^{-CLI-002-003-}$ 2Scott.Tucker@obg.com $5^{-CLI-002-003-}$ <
Attention:Tammy Esposito McCloskeyAttention:Scott TuckerILI - Region 5Address:Route 2235 Route 130; Dayton, NJ 08810Address:333 West Washington Street, PO Box 4873 Syracuse, NY 13221Project Street, PO Box 4873Project Street, PO Box 4873Phone:732-329-0200Phone:315-956-6345Project Street, PO Box 4873Email:Email:Scott.Tucker@obg.comEmail:Scott.Tucker@obg.comSection C Deliverable Requirements Maryanne.Kosciewicz@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com (ft)TAT - 10 DayDeliverables:Level 2, CAT B Report, NYSDEC EQUIS EDDSample DateSample TimeSample Purpose MatrixSample MatrixSample Time Purpose Matrix1Scott.Tucker@obg.comField Sample ID MUST BE UNIQUESample DateSample Time Purpose MatrixSample MatrixSample Time Purpose MatrixSample MatrixSample Time Purpose MatrixSample Time Purpose MatrixSample MatrixSample Time Purpose MatrixSample Time PurposeSample MatrixSample Time PurposeSample MatrixSample Time PurposeSample MatrixSample Time PurposeSample Purpose MatrixSample PurposeSample Purpose MatrixSample PurposeSample Purpose PurposeSample PurposeSample Purpose PurposeSample Purpose PurposeSample Purpose PurposeSample Purpos
Attention:Tammy Esposito McCloskeyAttention:Sout HokerProjectAddress:Route 2235Route 130; Dayton, NJ 08810Address:333 West Washington Street, PO Box 4873 StreetProjectClinton County LandfilPhone:732-329-0200Phone:315-956-6345Project450619Email:Scott. Tucker@obg.comFreederson:Image: Constraint Webre@parsons.comImage: Constraint Webre@parsons.comImage: Constraint Webre@parsons.comImage: Constraint Webre@parsons.comCopy To:Coraine. Webre@parsons.com; Heather. Fettig@parsons.comSection D Additional InformationImage: Constraint Webre@parsons.com; Heather. Fettig@parsons.comDeliverables:Level 2, CAT B Report, NYSDEC EQUIS EDDSampleSampleSampleSampleImage: Constraint Webre@parsons.com1StartEnd DepthField Sample ID (ft)Must Be UNIQUESampleSampleSampleK of fig. No. No. No. No. No. No. No. No. No. Constraint Webre@parsons.com1S-CLI-col2-col3- P-201S-CLI-col2-col3- Q.S-CLI-col2-col3- Q.S-CLI-col2-col3- P201S-CLI-col2-col3- Q.3S-CLI-col2-col3- P201S-CLI-col2-col3- Q.S-SLI-col2-col3- Q.S-SLI-col2-col3- Q.S-SLI-col2-col3- Q.3S-CLI-col2-col3- P201S-CLI-col2-col3- Q.S-SLI-col2-col3- Q.S-SLI-col2-col3- Q.S-SLI-col2-col3- Q.3S-CLI-col2-col3- P201S-CLI-col2-col3- Q.S-SLI-col2-col3- Q.S-SLI-col2-col3- Q.S-SLI-col2-col3- Q.3S-CLI-col2-col3- P201S-CLI-col2-col3- Q.<
Address:Route 2235 Route 130; Dayton, NJ 08810Address:333 West Washington Street, PO 600 4873 Streatting, PM 13221Site:Clinton County LandfilPhone:732-329-0200Phone:315-956-6345Project Number:450619Email:Soct. Tucker@obg.comPurchase Order No:11800693Section C Deliverable Requirements Report To:Purchase Order No:11800693Report To:Scott. Tucker@obg.comTAT - 10 DayCop To:Cort Tucker@obg.comTAT - 10 DayDeliverables:Level 2, CAT B Report, NYSDEC EQUIS EDDSection D Additional InformationLocation IDtentField Sample ID (ft)Sample Deth (ft)Sample Deth (ft)Sample Deth Time PurposeSample Sample Sample Sample Matrix VICF NO GO VICFVICF NO GO VICF VICF VICF15-CLI -oo2-oo3- P-220 $5-CLI -oo2-oo3- Ol$ $5-34-i8$ OR 903 OCVICF NO GO VICF VICF VICF NO GO VICFVICF NO GO VICF VICF VICF3 $5-CLI -oo2-oo3- P-2205-CLI -oo2-oo3- Ol5-34-i8OR 903 OCVICF NO GO VICF VICFVICF NO GO VICFVICF NO GO VICF VICFVICF NO GO VICFVICF NO GO VICFVICF NO GO VICF35-CLI -oo2-oo3- P-2205-CLI -oo2-oo3- Ol5-34-i8OR 903 OCVICF NO GO VICF VICFVICF NO GO VICF35-CLI -oo2-oo3- P-2205-CLI -oo2-oo3- Ol5-SI-3I-38-VICF NO GO VICFVICF NO GO VICFVICF NO GO VICF35-CLI -oo2-oo3- P-2205-SI-3I-38-VICF NO GO VI$
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EndingSection C Deliverable RequirementsPurchase Order No: 11800693Report To: Scott.Tucker@obg.comTAT - 10 DayCopy To: Lorraine.Weber@parsons.com, Learner.Fettig@parsons.comSection D Additional InformationMaryanne.Kosciewicz@parsons.com, Learner.Fettig@parsons.comSection D Additional InformationDeliverables: Level 2, CAT B Report, NYSDEC EQUIS EDDSample Sample Sample Sample Sample Sample Colspan="6">Sample Sample Colspan="6">Sample Sample Sample Colspan="6">Sample Sample Colspan="6">Sample Colspan="6">Sa
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25-CLI-002-003-P-22 5-CLI-002-003-02 0955 WG N 6 11231 35-CLI-002-003-P-22 0955 WG N 6 11231 45-CLI-002-003-03 0955 WG N 6 11231 55-CLI-002-003-03 5-31-18 - WQ FB 2 2
45-612-002-003-MU-E 5-612-002-003-01 WQ FB Z Z
55-CII-002-003-Fellac 5-CII-002-003-03 5-31-18 - WQ FB Z Z
8 INTIAL ASESSMENT 2 BUC
10 Special Instructions: Low Volume Well, limited set of bottles calcuted. (2) Freds from made Trip blanks using Fras free DI water supplied by redo, and extra Home Just sufficient of bottles to be bettles upplied by redo, and extra Home Just w/HeL. (A) Freds from the redo, and extra Home Just sufficient of bottles to be bettles upplied by redo, and extra Home Just w/HeL.

JC67162: Chain of Custody Page 1 of 4



5.1

SGS Sample Receipt Summary

Job Number:	JC67103 Clie	nt: PARSONS	Project: OBGNYA: ILI - R	EGION 5, CLINTON COUNTY L
Date / Time Received:	5/31/2018 10:00:00 AM	Delivery Method:	FedEx Airbill #'s: 435763465155	5
Cooler Temps (Raw Me Cooler Temps (Co	asured) °C: #Deleted rrected) °C: #Deleted			
Cooler Security 1. Custody Seals Present: 2. Custody Seals Intact:		C Present: V Or N ates/Time OK V	Sample Integrity - Documentation 1. Sample labels present on bottles: 2. Container labeling complete:	Y or N V V
Cooler Temperature	Y or N		3. Sample container label / COC agree:	
 Temp criteria achieved Cooler temp verification Cooler media: No. Coolers: 			Sample Integrity - Condition 1. Sample recvd within HT: 2. All containers accounted for: 3. Condition of sample:	Y or N ✓ □ ✓ □ Intact
Quality Control Preser 1. Trip Blank present / cor 2. Trip Blank listed on CO 3. Samples preserved pro 4. VOCs headspace free:	oler: C: perly: C: C: C: C: C: C: C:		Sample Integrity - Instructions1. Analysis requested is clear:2. Bottles received for unspecified tests3. Sufficient volume recvd for analysis:4. Compositing instructions clear:5. Filtering instructions clear:	Y or N N/A V U V U V U V U V U V U V U V U V U V U
Test Strip Lot #s:	pH 1-12:21601	7 pH 12+:	208717 Other: (Specify)	
Comments #Deleted				

JC67162: Chain of Custody Page 2 of 4



5.1



Responded to by:

Response Date:



JC67162: Chain of Custody Page 3 of 4



					CHAIN-OF-CUST	ODY	/ Ana	lytica	! Requi	est Do	cumen	t											
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ĺ	Ŀð	b Name: SSS - Accutest				Сопу	pany:	Parsons	(/08G		·		Proj	ect	+								
	Atl	tention: Tammy Espesito McClo	oskey			Atten	tion:	Scott Tu	ucker				Nam		ILI - Region 5								
	Ađ	dress: Route 2235 Route 13	D; Day:	cri, NJ	09810	Addre	SS!		t Washing		, PO Bax ·	4873	Proj Site:			Clin	tor				200	4611	I
	Ph	one: 732-329-0200				Phon	Spracuse, NY 13221 (Site: Clinton County Land Phone: 315-956-6395 Project 450619						JE 111	┨									
	Ên					Email: Scott.Tucker@obg.com [Preservative codes (for water only):								┥									
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		port To: Scott Tucker@obg.			<u>-</u>	<u> </u>	10 Da						$\left \right $		_ ;	unt:co			501/CHU				
		py To: Lorraine.Weber@parsons.co		ra.Orach	enberg@parsons.com	-	10 00									Horna			Ĕ.				I
	Dec	Maryanne.Kosoewicz@par				Secti	on D /	Additio	nal Info	rmatio	n		1			*- Dio	i		Alkarinity (BRD/TDS -	Animor			l
	Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD							- <u>-</u>				Composite (Y/N) NIS/MSD	SModifi	NO BIE 42 10311	177/54	8	TOG - 90604	NS/COL	150			I	
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JC67162: Chain of Custody Page 4 of 4



27 of 29 JC67162

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	I			2235 TEL, 732-3			, NJ 08810						SGS QU	ote #					SGS Job	#	JC671	62	
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Company	Name:	Project Name:																					
SGS	North America Inc.		OBGN	IYA: ILI - Reg	ion 5, C	linton Co	ounty Lan	dfill															DW - Drinkin GW - Grouns
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SGS	Field ID / Point of Collection	MEOH/DI Vial #		-	Sampled	Matrix	# of bottles	NaOH	HN03	H2SO4	DI Water MEOH	ENCORE	LCID537NY21	1									LAB USE
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1	5-CLI-002-003-01		5/31/18	9:20:00 AM		AQ	2		\downarrow	2		++	X										
2	5-CLI-002-003-02		5/31/18	9:55:00 AM	JP/JG	AQ	2			2			X										
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	Std. 10 Business Days						sial "B" (Le					iP Cater	gory B										
	5 Day RUSH						Level 3+4)				Forms											
	3 Day EMERGENCY					NJ Reduc Commerc						Format NYAS											
	1 Day EMERGENCY						Commercia	al "A" =	Resul	_													
D	K other 14						Commercia	el "B" =	Resul	ts + QC									1		1		~
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JC67162: Chain of Custody Page 1 of 2 SGS Orlando, FL

SGS

5.2

SGS Sample Receipt Summary

Job Number: JC67162	Client:	ALNJ		Project: OBGNYA						
Date / Time Received: 6/5/2018 9:15:0	MA 00	Delivery Method: FED	X	Airbill #'s: N/A	Airbill #'s: N/A					
Therm ID: IR 1;		Therm CF: 0.4;		# of Coole	r s: 1					
Cooler Temps (Raw Measured) °C:	Cooler 1: (2.0);								
Cooler Temps (Corrected) °C:	Cooler 1: (2.4);								
Cooler Information Y	or N	Sa	mple Information		Y or	N	N/A			
1. Custody Seals Present		1.	Sample labels presen	t on bottles	\checkmark					
2. Custody Seals Intact		2.	Samples preserved pr	operly	\checkmark					
3. Temp criteria achieved		3.	Sufficient volume/con	tainers recvd for analysis:	\checkmark					
4. Cooler temp verification IR C	Bun	4.	Condition of sample		Intact					
5. Cooler media Ice	(<u>Bag)</u>	5.	Sample recvd within H	IT	\checkmark					
		6.	Dates/Times/IDs on C	OC match Sample Label	\checkmark					
Trip Blank Information Y	or N _	N/A7.	VOCs have headspace	e			\checkmark			
1. Trip Blank present / cooler		☑ 8.	Bottles received for u	nspecified tests		\checkmark				
2. Trip Blank listed on COC		✓ 9.	Compositing instruction	ons clear			\checkmark			
10/	or S	N/A 10	. Voa Soil Kits/Jars re	ceived past 48hrs?			\checkmark			
		11	% Solids Jar receive	d?						
3. Type Of TB Received		✓ 12	Residual Chlorine Pr	resent?						
Misc. Information										
Number of Encores: 25-Gram	5-Gram	Number of	5035 Field Kits:	Number of L	ab Filtered I	Metals:				
Test Strip Lot #s: pH 0-3	23031	<u>р</u> Н 10-12	219813A	Other: (Spe	cify)					
Residual Chlorine Test Strip Lot #:										
Comments										
SM001 Rev. Date 05/24/17 Technician: SH/	AYLAP	Date: 6/5/2018 9:15:00	AM	Reviewer:		Date:				

JC67162: Chain of Custody Page 2 of 2



5.2





Dayton, NJ

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

e-Hardcopy 2.0 Automated Report

07/16/18

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



A. Paul Ioannidis General Manager

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.

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)

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SGS North America Inc. • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499



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Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about how we can serve you better at: EHS.US.CustomerCare@sgs.com



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Sample Summary

Parsons Engineering Science for ILI

Job No: JC67360

OBGNYA: ILI - Region 5, Clinton County Landfill

Sample Number	Collected Date	Time By	Received	Matri Code		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
1			 	

- 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.

M	atrix: 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.

Page 1 of 3

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).</p>

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).</p>
- 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
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- 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	
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- 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.

Monday, June 25, 2018

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General Chemistry By Method SM2340 C-11

Matrix: AQ Batch ID: GN81029	
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- 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	he recommended metho	d holding time.
-	All method blanks for this batch m	eet method specific crite	zria.
-	Sample(s) JC67298-1DUP, JC672	298-1MS were used as th	e 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
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- 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

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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					
Perfluorobutanoi	c acid ^a	27.3	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentano	ic acid ^a	46.5	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoi	c acid ^a	67.6	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptano	oic acid ^a	116	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoi	c acid ^a	66.0	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanes	ulfonic acid ^a	3.82	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanes	sulfonic 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 Dis	solved	405	10	1.8	mg/l	SM2540 C-11
Sulfate		27.7	4.0	1.1	mg/l	EPA 300/SW846 9056A
Total Organic Ca	rbon	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-Dichloroetha	ne	0.30 J	1.0	0.20	ug/l	SW846 8260C
cis-1,2-Dichloroe		1.9	1.0	0.50	ug/l	SW846 8260C
4-Methyl-2-penta	none(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, Volat	ile	6 J			ug/l	
Perfluorobutanoi	c acid ^a	33.1	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentano	ic acid ^a	56.1	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoi	c acid ^a	72.1	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptano	ic acid ^a	55.4	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoi	c acid ^a	5.88	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanes		19.9	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanes	sulfonic 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
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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

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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
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

0.28 J

(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.

1.0



ug/l

0.25

SW846 8260C



Dayton, NJ

Section 4

Sample Results

Report of Analysis



4



Client San Lab Samj Matrix: Method: Project:	ple ID: JC67 AQ - SW84	Ground Wa 46 8260C		County 1	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4D87935.D	DF 1	Analyzed 06/07/18 09:51	By CSF	Prep Date n/a	Prep Batc n/a	h Analytical Batch V4D3814
Run #1 Run #2	Purge Volum 5.0 ml	e					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



JC67360

4.1

E = Indicates value exceeds calibration range

J = Indicates an estimated value

Client Samp Lab Sample Matrix: Method: Project:		ion 5, Clintor	n County L	andfill	Da	te Sam te Rece rcent S	eived:	06/01/18 06/05/18 n/a
VOA Specia	l List							
CAS No.	Compound	Result	RL	MDL	Units	Q 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	Limi	its			
1868-53-7	Dibromofluoromethane	92%		80-1	20%			
17060-07-0	1,2-Dichloroethane-D4	87%		81-1				
2037-26-5	Toluene-D8	102%		80-1				
460-00-4	4-Bromofluorobenzene	102%		80-1				
CAS No.	Tentatively Identified Com	pounds	R.T.	Est.	Conc.	Units	Q	
	system artifact		4.23	13		ug/l	J	
	system artifact		4.23 4.27	13		ug/1 ug/1	J J	
	Total TIC, Volatile		4.21	0		ug/1 ug/1	J	
	rotar ric, volatile			0		ug/1		

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound



SGS

Client San Lab Samj Matrix: Method: Project:	ple ID: JC673 AQ - SW84	Ground Wa 6 8270D B			Date Perc	Sampled: 0 Received: 0 ent Solids: n	
Run #1 Run #2	File ID 3P68950.D	DF 1	Analyzed 06/19/18 14:02	By AR	Prep Date 06/07/18 08:50	Prep Batch OP12596A	Analytical Batch E3P3269
Run #1	Initial Volum 1000 ml	e Final V 1.0 ml	olume				

Run #1

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	Lim	its	
4165-60-0	Nitrobenzene-d5	80%		29-1	24%	
321-60-8	2-Fluorobiphenyl	64%		23-1	22%	
1718-51-0	Terphenyl-d14	84%		22-1	30%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Client San Lab Samp Matrix: Method: Project:	le ID: J A E	C67360 Q - Gro 2PA 537	ound Water M BY ID	EPA 537 MOD gion 5, Clinton C	county L	Date Perc	Sampled: Received: ent Solids:	
Run #1 ^a Run #2	File ID 2Q15631.	D	DF 1	Analyzed 06/19/18 05:39	By AFL	Prep Date 06/09/18 08:00	Prep Batch F:OP70426	U
	Initial Vo	olume	Final Volu	ıme				

Initial Volume Final Volu 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	Lim	its	
	13C4-PFBA	79%		30-1	40%	
	13C5-PFPeA	82%		40-1	40%	
	13C5-PFHxA	89%		50-1	50%	
	13C4-PFHpA	99%		50-1	50%	
	13C8-PFOA	118%		50-1	50%	
	13C9-PFNA	102%		50-1	50%	
	13C6-PFDA	87%		50-1	50%	
	13C7-PFUnDA	77%		50-1	50%	

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

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4.1 **4**



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.

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



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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
		Percent Solids:	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

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	0.00004	7mg/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

4

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JC67360

ND = Not detected

 $J = \ Indicates \ a \ result > = \ MDL \ but < \ RL$

Client Sample ID:	5-CLI-002-004-01			
Lab Sample ID:	JC67360-1	Date Sampled:	06/01/18	4
Matrix:	AQ - Ground Water	Date Received:	06/05/18	
		Percent Solids:	n/a	4
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		I	
] -

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.



Client San Lab Samp Matrix: Method: Project:	ple ID: JC67 AQ - SW8	I-002-004-0 360-2 Ground Wa 46 8260C NYA: ILI -		County I	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4D87936.D	DF 1	Analyzed 06/07/18 10:19	By CSF	Prep Date n/a	Prep Batc n/a	h Analytical Batch V4D3814
Run #1 Run #2	Purge Volum 5.0 ml	ie					

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

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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JC67360

E = Indicates value exceeds calibration range

Client Sample ID:5-CLI-002-004-02Lab Sample ID:JC67360-2Matrix:AQ - Ground WaterMethod:SW846 8260CProject:OBGNYA: ILI - Region		ion 5, Clinton	n 5, Clinton County Landfill			te Sam te Rece rcent S	06/01/18 06/05/18 n/a		
VOA Specia	al List								
CAS No.	Comp	oound	Result	RL	MDL	Units	Q		
74-95-3	Methy	lene bromide	ND	1.0	0.45	ug/l			
75-09-2	Methy	lene chloride	ND	2.0	1.0	ug/l			
100-42-5	Styren		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	Tetrac	chloroethene	ND	1.0	0.50	ug/l			
108-88-3	Toluer	ne	0.91	1.0	0.25	ug/l	J		
71-55-6		Trichloroethane	ND	1.0	0.25	ug/l			
79-00-5	, ,	Trichloroethane	ND	1.0	0.24	ug/l			
79-01-6	Trichl	oroethene	ND	1.0	0.27	ug/l			
75-69-4		orofluoromethane	ND	2.0	0.60	ug/l			
96-18-4		Trichloropropane	ND	2.0	0.47	ug/l			
108-05-4		Acetate	ND	10	3.2	ug/l			
75-01-4		chloride	ND	1.0	0.62	ug/l			
	m,p-X		ND	1.0	0.43	ug/l			
95-47-6	o-Xyle		ND	1.0	0.22	ug/l			
1330-20-7	Xylen	e (total)	ND	1.0	0.22	ug/l			
CAS No.	Surro	gate Recoveries	Run# 1	Run# 2	Lir	nits			
1868-53-7	Dibro	mofluoromethane	92%		80-	120%			
17060-07-0		ichloroethane-D4	90%			124%			
2037-26-5	Toluer		102%			120%			
460-00-4		mofluorobenzene	101%			120%			
CAS No.	Tenta	tively Identified Com	pounds	R.T.	Est	. Conc.	Units	Q	
	system	n artifact		4.23	13		ug/l	J	
	•	n artifact		4.27	16		ug/l	J	
60-29-7	Ethyl			7.66	6		ug/l	JN	
		TIC, Volatile			6		ug/l	J	
		,					U		

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound

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KUII #2	Initial Vol						
Run #1 Run #2	3P68951.D	DF 1	Analyzed 06/19/18 14:24	By AR	Prep Date 06/07/18 08:50	Prep Batch OP12596A	Analytical Batch E3P3269
Project:		BGNYA: ILI -	Region 5, Clinton C	ounty	Landfill		
Client San Lab Samp Matrix: Method:	ple ID: JC A(CLI-002-004-0 67360-2 Q - Ground Wa		00	Date	Sampled: 06 Received: 06 ent Solids: n/	

Run #1 1000 ml

Run #2

1.0 ml

Kun #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	Run# 2 Limits			
4165-60-0	Nitrobenzene-d5	78%		29-124%			
321-60-8	2-Fluorobiphenyl	63%		23-1	22%		
1718-51-0	Terphenyl-d14	85%		22-1	30%		

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound



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Client San Lab Samp Matrix: Method: Project:	AQ - EPA	360-2 Ground Wa 537M BY II		County I	Date Perc	Sampled: 0 Received: 0 ent Solids: n	
Run #1 ^a Run #2	File ID 2Q15632.D	DF 1	Analyzed 06/19/18 06:01	By AFL	Prep Date 06/09/18 08:00	Prep Batch F:OP70426	Analytical Batch F:S2Q277
	Initial Volum	e Final V	olume				

Run #1 1.0 ml 250 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	Lim	its	
	13C4-PFBA	69%		30-1	40%	
	13C5-PFPeA	71%		40-1	40%	
	13C5-PFHxA	79%		50-1	50%	
	13C4-PFHpA	91%		50-1	50%	
	13C8-PFOA	111%		50-1	50%	
	13C9-PFNA	101%		50-1	50%	
	13C6-PFDA	89%		50-1	50%	
	13C7-PFUnDA	81%		50-1	50%	

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



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JC67360

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.

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

Page 2 of 2



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
		Percent Solids:	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

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	0.00004	7mg/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

4.2

Page 1 of 1

ND = Not detected



SGS

SGS LabLink@1006845 10:47 16-Jul-2018

Client Sample ID: Lab Sample ID:	5-CLI-002-004-02 JC67360-2	Date Sampled:	06/01/18	₽ K
Matrix:	AQ - Ground Water	Date Received:	06/05/18	
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill	Percent Solids:	n/a	4

Report of Analysis

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-11LACHA
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.



Client San Lab Samj Matrix: Method: Project:	ple ID: JC67 AQ - SW8	I-002-004-0 360-3 Ground Wa 46 8260C NYA: ILI -		County 1	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4D87937.D	DF 1	Analyzed 06/07/18 10:48	By CSF	Prep Date n/a	Prep Batc n/a	h Analytical Batch V4D3814
Run #1 Run #2	Purge Volum 5.0 ml	ie					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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JC67360

E = Indicates value exceeds calibration range

J = Indicates an estimated value

Lab Sample Matrix: Method: Project:	AQ - Ground Water SW846 8260C OBGNYA: ILI - Reg	JC67360-3 AQ - Ground Water			Date Sampled: Date Received: Percent Solids:			06/01/18 06/05/18 n/a	
VOA Specia	al 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	Lim	its				
1868-53-7	Dibromofluoromethane	93%		80-1	20%				
17060-07-0	1,2-Dichloroethane-D4	89%		81-1					
2037-26-5	Toluene-D8	102%		80-1					
460-00-4	4-Bromofluorobenzene	101%		80-1					
CAS No.	Tentatively Identified Com	pounds	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		

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound

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Lab Samp Matrix:	AQ -	Ground Wa			Date	Received: 0	
Method:	SW84	6 8270D B	Y SIM SW846 351	.0C	Perc	ent Solids: n	/a
Project:	OBG	VYA: ILI -	Region 5, Clinton C	County	Landfill		
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	File ID 3P68953.D	DF 1	Analyzed 06/19/18 15:07	•	Prep Date 06/07/18 08:50	Prep Batch OP12596A	Analytical Batch E3P3269
Run #1 Run #2 ^a		DF 1 2	•	AR	1	-	•

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	Initial Volume	Final V
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	Lim	its	
4165-60-0	Nitrobenzene-d5	52%	68%	29-1	24%	
321-60-8	2-Fluorobiphenyl	68%	69%	23-1	22%	
1718-51-0	Terphenyl-d14	107%	105%	22-1	30%	

(a) Confirmation run for internal standard areas.

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



4.3

Client Saı Lab Samı Matrix:	ple ID: JC6736	002-004-0 0-3 round Wa				Sampled: 0 Received: 0	6/01/18 6/05/18
Method:	EPA 53	7M BY I	D EPA 537 MOD		Perc	ent Solids: n	/a
Project:	OBGN	A: ILI -	Region 5, Clinton C	County I	andfill		
ſ	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
	rile ID			23		I tep Dutten	mary incar Daten
Run #1 ^a	2Q15633.D	1	06/19/18 06:23	•	06/09/18 08:00	F:OP70426	F:S2Q277
Run #1 ^a Run #2 ^a		1 2	ť	AFL	-	-	•

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Run #1 240 ml 1.0 ml Run #2 240 ml 1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDI	L 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	L	imits	
	13C4-PFBA	84%		30	0-140%	
	13C5-PFPeA	92%		40	0-140%	
	13C5-PFHxA	104%		50	0-150%	
	13C4-PFHpA	112%		50	0-150%	
	13C8-PFOA	134%		50	0-150%	
	13C9-PFNA	134%		50	0-150%	
	13C6-PFDA	92%		50	0-150%	
	13C7-PFUnDA	66%		50	0-150%	

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



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 13C2-PFTeDA 13C3-PFBS 13C3-PFHxS 13C8-PFOS 13C8-FOSA	65% 80% 93% 99% 91% 97%		50-150% 40-150% 50-150% 50-150% 50-150% 30-140%
	d3-MeFOSAA 13C2-6:2FTS 13C2-8:2FTS	85%	146% 146%	50-150% 50-150% 50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Result is from Run# 2

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

Page 2 of 2



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
		Percent Solids:	n/a
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill		

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	7mg/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

4.3

SGS LabLink@1006845 10:47 16-Jul-2018

Client Sample ID:			0.6/01/10	4
Lab Sample ID:	JC67360-3	Date Sampled:	06/01/18	ີ່ເປັ
Matrix:	AQ - Ground Water	Date Received:	06/05/18	
		Percent Solids:	n/a	4
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill			

Report of Analysis

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed By N	Method
Alkalinity, Total as CaCO3 ^a	408	10	2.3	mg/l	1	06/08/18 19:25 MP S	SM2320 B-11
Bromide	ND	0.50	0.060	mg/l	1	06/22/18 07:21 NV E	EPA 300/SW846 9056A
Chemical Oxygen Demand	163	100	32	mg/l	5	06/08/18 11:50 RP S	SM5220 C-11,HACH8000
Chloride	8.7	2.0	0.070	mg/l	1	06/22/18 07:21 NV E	EPA 300/SW846 9056A
Hardness, Total as CaCO3	514	4.0	2.5	mg/l	1	06/07/18 09:27 ST S	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	06/11/18 14:34 BM S	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	530	10	1.8	mg/l	1	06/07/18 16:00 RC S	SM2540 C-11
Sulfate	41.6	6.0	1.6	mg/l	3	06/23/18 22:50 NV E	EPA 300/SW846 9056A
Total Organic Carbon	41.5	1.0	0.60	mg/l	1	06/12/18 14:42 JO S	SW846 9060A

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



Client Sa Lab Samj Matrix: Method: Project:	ple ID: J	5-CLI-00 IC67360 AQ - Gro SW846 8 OBGNY	-4 ound Wa 3260C		County	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4B82612	.D	DF 1	Analyzed 06/09/18 10:23	By HT	Prep Date n/a	Prep Batc n/a	ch Analytical Batch V4B3434
Run #1 Run #2	Purge V 5.0 ml	olume						

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

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound





E = Indicates value exceeds calibration range

J = Indicates an estimated value

Client Sample ID:5-CLI-002-004-04Lab Sample ID:JC67360-4Matrix:AQ - Ground WaterMethod:SW846 8260CProject:OBGNYA: ILI - Regional		gion 5, Clintor	n County L	andfill	Date	e Sampled e Received cent Solids	: 06/05/18
VOA Specia	ll 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	Lim	its		
1868-53-7	Dibromofluoromethane	102%		80-1	20%		
17060-07-0	1,2-Dichloroethane-D4	107%		81-1	24%		
2037-26-5	Toluene-D8	102%		80-1	20%		
460-00-4	4-Bromofluorobenzene	101%		80-1	20%		
CAS No.	Tentatively Identified Com	pounds	R.T.	Est.	Conc.	Units Q	
	system artifact		3.56	160		ug/l J	
	Total TIC, Volatile			0		ug/l	
						0 -	

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$

N = Indicates presumptive evidence of a compound

Page 2 of 2



Lab Sam	-	67360-4				Sampled: (
Matrix:	AQ	Q - Ground Wa	ter		Date	Received: (06/05/18
Method:	SW	/846 8270D B	Y SIM SW846 351	.0C	Perc	ent Solids: 1	n/a
Project:	OE	BGNYA: ILI -	Region 5, Clinton C	County	Landfill		
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	File ID 3P68952.D		Analyzed 06/19/18 14:46	•	Prep Date 06/07/18 08:50	Prep Batch OP12596A	Analytical Batch E3P3269
Run #1 Run #2			v	•	-	-	•

Run #1 1000 ml

Run #2

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	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	Lim	its	
4165-60-0	Nitrobenzene-d5	52%		29-1	24%	
321-60-8	2-Fluorobiphenyl	47%		23-1	22%	
1718-51-0	Terphenyl-d14	63%		22-1	30%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



4.4



Lab Samp		0-4				1	06/01/18		
Matrix:					Date Received: 06/05/18				
Method:	Method: EPA 537M BY ID EPA 537 MOD					ent Solids: 1	n/a		
Project:	OBGN	(A: ILI -	Region 5, Clinton C	County L	Landfill				
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch		
	2015634.D	1	06/19/18 06:45	AFL	06/09/18 08:00	F:OP70426	F:S2Q277		
Run #1 ^a	2Q13037.D								
Run #1 ^a Run #2 ^b	2Q15677.D	2	06/19/18 22:29	AFL	06/09/18 08:00	F:OP70426	F:S2Q277		

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	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	Lim	its	
	13C4-PFBA	98%	88%	30-1	40%	
	13C5-PFPeA	103%	94%	40-1	40%	
	13C5-PFHxA	120%	109%	50-1	50%	
	13C4-PFHpA	136%	120%	50-1	50%	
	13C8-PFOA	165% d	151%	50-1	50%	
	13C9-PFNA	171% ^d	164%	50-1	50%	
	13C6-PFDA	120%	102%	50-1	50%	
	13C7-PFUnDA	102%	89%	50-1	50%	

ND = Not detected MDL = Method Detection Limit RL = Reporting Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.4

SGS

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: Percent Solids: EPA 537M BY ID EPA 537 MOD n/a **Project:** OBGNYA: ILI - Region 5, Clinton County Landfill

Report of Analysis

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.

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



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JC67360

SGS LabLink@1006845 10:47 16-Jul-2018

Client Sample ID:	5-CLI-002-004-04			
Lab Sample ID:	JC67360-4	Date Sampled:	06/01/18	4
Matrix:	AQ - Ground Water	Date Received:	06/05/18	
		Percent Solids:	n/a	4
Project:	OBGNYA: ILI - Region 5, Clinton County Landfill			
				_]

Report of Analysis

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.



Lab Samp Matrix: Method:	AQ - E	50-5 Equipment			Date	Sampled: 0 Received: 0 ent Solids: n	
Project:	OBGN	YA: ILI -	Region 5, Clinton C	County I	Landfill		
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D #1.2	2Q15635.D	1	06/19/18 07:07	AFL	06/09/18 08:00	F:OP70426	F:S2Q277
Run #1 ^a							
Run #1 ^a Run #2 ^b	2Q15724.D	5	06/20/18 17:18	AFL	06/09/18 08:00	F:OP70426	F:S2Q278

PFAS List

250 ml

1.0 ml

Run #2

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	Lim	its	
	13C4-PFBA	101%		30-1	40%	
	13C5-PFPeA	101%		40-1	40%	
	13C5-PFHxA	107%		50-1	50%	
	13C4-PFHpA	123%		50-1	50%	
	13C8-PFOA	145%		50-1	50%	
	13C9-PFNA	119%		50-1	50%	
	13C6-PFDA		91%	50-1	50%	
	13C7-PFUnDA	98%		50-1	50%	

ND = Not detected MDL = Method Detection Limit RL = Reporting Limit J = Indicates an estimated value

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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

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



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Client Sam Lab Sampl Matrix: Method: Project:	AQ - E EPA 5	60-6 quipment B 37M BY ID		ounty L	Date Perc	Sampled: (Received: (ent Solids: 1	
Run #1 ^a Run #2	File ID 2Q15636.D	DF 1	Analyzed 06/19/18 07:29	By AFL	Prep Date 06/09/18 08:00	Prep Batch F:OP70426	•
Run #1	Initial Volume 250 ml	Final Vo 1.0 ml	olume				

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	Lim	its	
	13C4-PFBA	100%		30-1	40%	
	13C5-PFPeA	101%		40-1	40%	
	13C5-PFHxA	109%		50-1	50%	
	13C4-PFHpA	119%		50-1	50%	
	13C8-PFOA	133%		50-1	50%	
	13C9-PFNA	121%		50-1	50%	
	13C6-PFDA	113%		50-1	50%	
	13C7-PFUnDA	95%		50-1	50%	

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



Page 1 of 2



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

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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%
	13C2-PFDoDA 13C2-PFTeDA 13C3-PFBS 13C3-PFHxS 13C8-PFOS 13C8-FOSA d3-MeFOSAA 13C2-6:2FTS	13C2-PFDoDA 87% 13C2-PFTeDA 85% 13C3-PFBS 104% 13C3-PFHxS 116% 13C8-PFOS 110% 13C8-FOSA 107% d3-MeFOSAA 118% 13C2-6:2FTS 125%	13C2-PFDoDA 87% 13C2-PFTeDA 85% 13C3-PFBS 104% 13C3-PFHxS 116% 13C8-PFOS 110% 13C8-FOSA 107% d3-MeFOSAA 118% 13C2-6:2FTS 125%

(a) Analysis performed at SGS Orlando, FL.

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



Page 2 of 2



Client Sam Lab Sampl Matrix: Method: Project:	e ID: JC6736 AQ - F EPA 53	ield Blank 37M BY ID		ounty L	Date Perc	Sampled: Received: ent Solids:	
Run #1 ^a Run #2	File ID 2Q15637.D	DF 1	Analyzed 06/19/18 07:50	By AFL	Prep Date 06/09/18 08:00	Prep Batch F:OP70426	ť
Run #1	Initial Volume 250 ml	Final Vo 1.0 ml	olume				

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	Lim	its	
	13C4-PFBA	96%		30-1	40%	
	13C5-PFPeA	97%		40-1	40%	
	13C5-PFHxA	106%		50-1	50%	
	13C4-PFHpA	112%		50-1	50%	
	13C8-PFOA	127%		50-1	50%	
	13C9-PFNA	111%		50-1	50%	
	13C6-PFDA	96%		50-1	50%	
	13C7-PFUnDA	77%		50-1	50%	

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

Page 1 of 2



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
		-		50 1500/
	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.

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





Client San Lab Samp Matrix: Method: Project:	ple ID: JC67 AQ - SW84	I-002-004-0 360-8 Trip Blank 46 8260C NYA: ILI -		County I	Landfill	Date Sampled: Date Received: Percent Solids:	
Run #1 Run #2	File ID 4D87943.D	DF 1	Analyzed 06/07/18 14:11	By CSF	Prep Date n/a	Prep Bate n/a	h Analytical Batch V4D3814
Run #1 Run #2	Purge Volum 5.0 ml	e					

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

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 2

E = Indicates value exceeds calibration range

J = Indicates an estimated value

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Client Samp Lab Sample Matrix: Method: Project:		5-CLI-002-004-08 JC67360-8 AQ - Trip Blank Wate SW846 8260C OBGNYA: ILI - Regi		n County L	andfill	Date	e Sampled: e Received: cent Solids:	06/01/18 06/05/18 n/a
VOA Specia	l List							
CAS No.	Comp	ound	Result	RL	MDL	Units	Q	
74-95-3	Methy	lene bromide	ND	1.0	0.45	ug/l		
75-09-2	Methy	lene chloride	ND	2.0	1.0	ug/l		
100-42-5	Styren	e	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	Tetrac	hloroethene	ND	1.0	0.50	ug/l		
108-88-3	Toluer	ne	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	Trichl	oroethene	ND	1.0	0.27	ug/l		
75-69-4	Trichl	orofluoromethane	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-X	lylene	ND	1.0	0.43	ug/l		
95-47-6	o-Xyle	ene	ND	1.0	0.22	ug/l		
1330-20-7	Xylen	e (total)	ND	1.0	0.22	ug/l		
CAS No.	Surro	gate Recoveries	Run# 1	Run# 2	Lim	its		
1868-53-7	Dibro	mofluoromethane	91%		80-1	20%		
17060-07-0	1,2-Di	ichloroethane-D4	91%		81-1	24%		
2037-26-5	Toluer		102%		80-1	20%		
460-00-4		nofluorobenzene	102%			20%		
CAS No.	Tenta	tively Identified Com	oounds	R.T.	Est.	Conc.	Units Q	

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Report of Analysis

system artifact

Total TIC, Volatile

J = Indicates an estimated value

ug/l

ug/l

J

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 2 of 2







Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

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10 DayImage: Sample Sample DateSection D Additional InformationImage: Sample DateSection D Additional Information</td> <td>Section B Client InformationCOC #:5-CLI-002-00 LCompany:Parsons/OBGProjectAttention:Scott TuckerAddress:333 West Washington Street, PO Box 4873Syracuse, NY 13221ProjectPhone:315-956-6345ProjectStreetPone:315-956-6345ProjectAttention:Scott Tucker@obg.comProjectPurchase Order No:11800693TAT - 10 DayNoSection D Additional InformationNoSection D Additional InformationNN<</td> Section D Additional InformationNN<	Section B Client Information Company: Parsons/OBG Attention: Scott Tucker Address: 333 West Washington Street, PO Box 4 Syracuse, NY 13221 Phone: Phone: 315-956-6345 Email: Scott.Tucker@obg.com Purchase Order No: 11800693 TAT - 10 Day Section D Additional Information Section D Additional Information Sample Section D Additional Information No 501 $6-1 - 2618$ 6920 $0-1 - 2618$ 6920 W/G $0-2$ $6-1 - 2618$ 1515 $0-1$ $6-1 - 2618$ 1700 $0-2$ $6-1 - 2618$ 1700 $0-1$ $6-1 - 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Date Time Date Time Date Sample Sample Sample Sample Sample Date Time Date Time Date Sample Sample Sample Sample Sample Date Time Date Conte Date	Section B Client Information CC Company: Parsons/OBG Pro Attention: Scott Tucker Nar Address: 333 West Washington Street, PO Box 4873 Street Address: 333 West Washington Street, PO Box 4873 Street Phone: 315-956-6345 Pro Phone: 315-956-6345 Pro Purchase Order No: 11800693 TAT - 10 Day Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Additional Information Section D Addition A D	Section B Client Information COC 4 Company: Parsons/OBG Project Attention: Scott Tucker Name: Address: 333 West Washington Street, PO Box 4873 Project Address: 333 West Washington Street, PO Box 4873 Project Phone: 315-956-6345 Project Phone: 315-956-6345 Project Purchase Order No: 11800693 TAT - 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10 Day $\frac{100}{100000000000000000000000000000000$	Section B Client InformationCOC #:5-CLiCompany:Parsons/OBGProject Name:ILI -Attention:Scott TuckerName:ILI -Address:333 West Washington Street, PO Box 4673 Syracuse, NY 13221Project Street, Project Street, ProjectProject Street, ClintonPhone:315-956-6345Project Number:45000Phone:315-956-6345Project Number:45000Project Purchase Order No:11800693Project Number:45000TAT - 10 DaySection D Additional InformationNNN 2 3 2 1NNN 2 3 2 1Section D Additional InformationNNN 2 3 2 1NNN 2 3 2 1NNN 2 3 2 1Section D Additional InformationNNN 2 3 2 11 2 3 2 11 2 3 2 1Section D Additional InformationNNN 2 3 2 11 2 3 2 11 2 3 2 1Section D Additional InformationNNN 2 3 2 11 2 3 2 11 3 2 3 2 1Section D Additional InformationNNN 2 3 2 11 2 3 2 11 3 2 3 2 1Section D Additional InformationNNN 2 3 2 12 3 2 11 3 2 3 2 1Section D Additional InformationNNN 2 3 2 12 3 2 11 3 2 3 2 1Section D Additional InformationNNN 2 3 2 12 3 2 11 3 2 3 2 1Section D Additional InformationNN 2 3 2 12 3 2 11 3 3 2 1Section D Additional InformationNN 2 3 2 2 12 3 2 11 3 3 2 1Section D Additional InformationNN 2 3 2 2 12 3 2 11 3 3 2 1Section D Additional Information	Section B Client InformationCOC #:5-CLI-0Company:Parsons/OBGProjectName:ILI - 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10 Day $0 2 3 1 0 3 3 1 0 1 1 1 1 1 1 1 1$

JC67360: Chain of Custody Page 1 of 4

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INITIAL ASESSMENT

SGS Sample Receipt Summary

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<u>N N/A</u>

SM089-03 Rev. Date 12/7/17

JC67360: Chain of Custody Page 2 of 4



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Responded to by: CSR: N/A

Response:

Response: Proceed with analysis

JC67360: Chain of Custody Page 3 of 4



1			CHAIN-OF-CUST	ODY / Ana	lytical	Reque	est Do	cumen	t			-		JO	CE	57	36	0	
Section A Laboratory Infor	mation	1		Section B Client Information						COC #:			5-CLI-002-004						
Lab Name: SGS - Accutest			Company: Parsons/OBG					Project			Chaine Station								
Attention: Tammy Esposito McCloskey				Attention: Scott Tucker						Name:			ILI - Region 5						
Address: Route 2235 Route 130; Dayton, NJ 08810				Address: 333 West Washington Street, PO Box 4873						Project Site: Clin			Clinton County Landfill						
Phone: 732-329-0200				Syracuse, NY 13221 Phone: 315-956-6345						Drojact				50619					
				Email: Scott.Tucker@obg.com					Num	Pre	serva	Vative codes (for water only):							
Email:				Purchase Order No: 11800693						0	1 (2	3	1 (0 0	3	H		
Section C Deliverable Requirements Report To: Scott.Tucker@obg.com Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com										. 3	lod.Bsin I		2040C						
			TAT - 10 Day								lodified	Not/Hard		HL/BR	2				
Maryanne.Kosciewicz@pa	rsons.cor	n; Heath	er.Fettig@parsons.com	Section D	Additio	nal Info	rmation	1			PFA	Baselin	Animo Nicalinki SO4(CH/JBRO/TDS SO4(CH/JBRO/TDS Abah McAhard Ru-dh PAris + 1, 4 - Db						
Deliverables: Level 2, CAT B F	leport,		C EQUIS EDD	1.000		_	-		_	M	SModif	e vocs	470/SH2	8	TOC - 9060	- SM20	Na 350.		
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 #BO		- 8260 m	0 2340C ~	COD 410.4 1	425400 1	SM20 23208 -	1/SM20		-
15-061-002-004-AN-E	154,25	155,23	5-011-002-004-01	5-1-2018	0920		WG	N	13	NN	26	3:	X	N	XX	X	X		
25-CLI-007-004-MW-CR	150.71	150,95	5-66-602-004-02	6-1-2018	0940		WG	N	13	11	2	32	M	T	III	T	T	T	
35-647-002-004-Plot	-	-	5-01-02-004-03	6-1-2018	1515	1	WG	N	13		2	32	T	T	Ш	1	T	T	1211
4 5-0-1- 400-500- MW-200	-	-	5-64-04-04	6-1-2018	1700	10000-00	WG	N	13	111	5	32	Ó		M	11	1	T	
55-11-002-001-Fielda	-	-	5-01-002-001-05	6-1-2018	1930		wa	EB	2		2							T	
65-125-002-004-Fielda	-	-	5-CLI-002-004-06	6-1-2018	1935		wa	EB	2		2							T	T
75-661- 002-00-1-Findal	-	J	5-43-002-004-07	6-1-2018	1860		WQ	EB	2	1	2								
8 5-413-002-004-Finlage	-	-	5-662-004-08	6-1-2018			WQ	FB	3		×.	3							
9	100	1-40		1.000	01.01	b = 0 - 0		1.000										T	
10	민물						1	111		111									
Special Instructions: Note (1) ?	1 0	vens	piol & MU-220 were not	sconflict w/	bailer5.							DE	6.0	7 14	. Law				
	2 Trip	Blank	(5 (5-66-002-004-00)) were cre	oted by	field s	itate in	12.49	sing	lab .	grade	1.44		1 .	-10.				
	' - Disca	rd meta	als sample									S. C.	4.1						
Soc Prily & John Galdney Daternine: G-4-2018 1530		Reinquisted By: Company: OBG- DeterTime: G-4-2018 3530				Cooler Temp.: /				Custody Seals Intact: Yes D No D Samples Intact: Yes D No D									
hipment Method:	Shipment Tracking No: 77 23 8635 261		Accepted By: A Company: Shs					Cooler Temp.:				Custody Seals Intact: Yes D No D							
		$e^{-e^{-2}}$ $p_{aue/Time:} G - 4 - 2018 Pick op - 19-30 f$ Preservatives: 0 = None; [1 = HCL]; [2 = HN03]; [3 = H2S04]; [4 = Na0H]; [5 = Zn Acetate]; [1								sc'd on los: Yes D No D. Samples Intact: Yes D No D									

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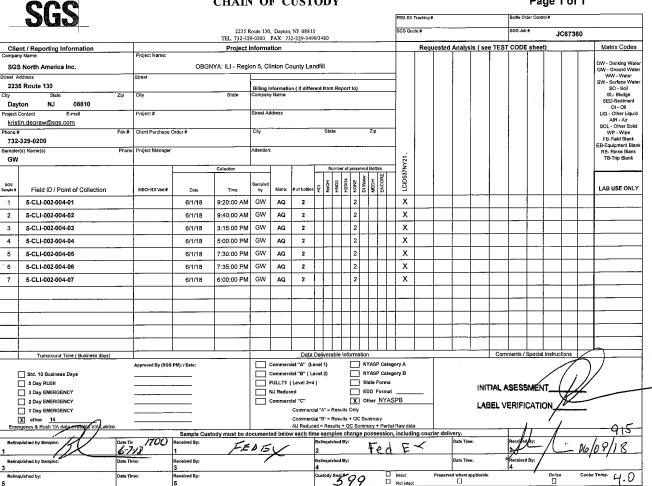
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INITIAL ASESSMENT AL 2B



JC67360: Chain of Custody Page 1 of 2 SGS Orlando, FL





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CHAIN OF CUSTODY

SGS Sample Receipt Summary

Job Number:	Client:	ALNJ	Project: OBGNY	A							
Date / Time Received: 6/8/2018 9:1	5:00 AM	Delivery Method: FED EX	Airbill #'s: 10018	Airbill #'s: 1001891711060003281100563393517665							
Therm ID: IR 1;		Therm CF: 0.4;	# of Co	olers: 1							
Cooler Temps (Raw Measured) °C	C: Cooler 1: (3.6	i);									
Cooler Temps (Corrected) °C	C: Cooler 1: (4.0);									
Cooler Information _Y	or N	Sam	ble Information	Y or M	NN/A						
1. Custody Seals Present		1. Sa	mple labels present on bottles								
2. Custody Seals Intact		2. Sa	mples preserved properly								
3. Temp criteria achieved		3. Su	fficient volume/containers recvd for analys	is: 🖌							
4. Cooler temp verification	<u>R Gun</u>	4. Co	ndition of sample	Intact							
5. Cooler media	e (Bag)	5. Sa	mple recvd within HT	\checkmark							
		6. Da	tes/Times/IDs on COC match Sample Lab	oel 🖌 🗌							
Trip Blank Information Y	or N	N/A 7. VC	OCs have headspace								
1. Trip Blank present / cooler		✓ 8. Bo	ttles received for unspecified tests								
2. Trip Blank listed on COC		✓ 9. Co	mpositing instructions clear								
N N	V or S	N/A 10. V	oa Soil Kits/Jars received past 48hrs?								
		11. %	Solids Jar received?								
3. Type Of TB Received		✓ 12. R	esidual Chlorine Present?								
Misc. Information											
Number of Encores: 25-Gram	5-Gram	Number of 50	35 Field Kits: Number	of Lab Filtered Meta	ls:						
Test Strip Lot #s: pH 0	-323031	5 pH 10-12	219813A Other: (Specify)							
Residual Chlorine Test Strip Lot #: _											
Comments											
SM001 Rev. Date 05/24/17 Technician: S	HAYLAP	Date: 6/8/2018 9:15:00 A	M Reviewer:	Da	ite:						

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