

CERTIFICATION

OLD NORTH SEA LANDFILL, NORTH SEA NY

I, Sara M Weishaupt, certify that all activities detailed in this Field Activity Summary Report were conducted as described and in full accordance with the approved workplan and any DEC approved modifications, unless otherwise noted herein.

Sara M. Weishaupt
Regional Coordinator

11/12/2019
Date

Sara M. Weishaupt
Signature

Reviewed/Accepted By:

Division of Materials Management

Date

Signature

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

Landfill Name: Old North Sea Landfill

Region: 1

Database ID: 1056

Date of Field Activities: 4/9/18 – 4/11/18, 5/1/18 – 5/2/18

Summary of Field Activities

As shown on Figure 1, three new monitoring wells were installed. Two of these wells (MW-01 and MW-02) were sampled to assess impacts to drinking water sources and nearby receptors. Groundwater flow direction is shown on Figure 2. Monitoring wells were installed and sampled according to the program Field Activities Plan with the following deviation: QED Sample Power Pro submersible pump was used to collect groundwater (rather than the QED Sample Pro bladder pump). A PFAS equipment blank was collected by pumping laboratory provided PFAS free water through the pump and into the appropriate bottle ware. PFAS and PFOA concentrations were non-detect for the equipment blank. MW-03 (upgradient well) was not able to be sampled. The sampling crew found the well to be damaged. The crew suspected that a large vehicle may have hit the well as the 4-inch protective casing and well pad was completely removed, and the 2-inch PVC riser was broken off approximately 2-feet below ground surface. The sampling crew attempted to get a total depth and depth to water measurement but found there to be 8-feet of packed sand material inside the well.

Monitoring Wells Installed

Monitoring Well ID	Northing	Easting	Elevation	Well Development Date	Comments
MW-01	282340.277	1424568.117	43.468	5/1/2018	Purged until parameters stabilized.
MW-02	282597.679	1424998.722	47.894	5/1/2018	Purged until parameters stabilized.
MW-03	281889.528	1425477.22	65.910	5/1/2018	Well Destroyed

Monitoring Wells Sampled

Monitoring Well ID	Date	Sample Collected (yes/no)	Comments
MW-01	5/1/2018	Yes	Sampled with QED Power Pro Electric Sampling Pump at 300 mL/min. Parameters stabilized during purge of 4.75 gallons. Field Sample ID: 1-SUF-009-001-03
MW-02	5/2/2018	Yes	Sampled with QED Power Pro Electric Sampling Pump at 425 mL/min. Parameters stabilized during purge of 5 gallons. Field Sample ID: 1-SUF-009-001-07

Other Samples

Sample Location	Sample Type	Date	Comments
MW-01	Field Duplicate	5/1/18	Field Sample ID: 1-SUF-009-001-04
MW-01	MS/MSD	5/1/18	Field Sample ID: 1-SUF-009-001-03
Blank	EB	5/1/18	Field Sample ID: 1-SUF-009-001-01
Blank	FB	5/1/18	Field Sample ID: 1-SUF-009-001-02
Blank	FB	5/2/19	Field Sample ID: 1-SUF-009-001-06

Figures

Figure 1	Sample Locations
Figure 2	Groundwater Flow Direction and Emergent Contaminant Results

Attachments

Attachment 1	Old North Sea Work Plan
Attachment 2	Boring and Well Construction Logs
Attachment 3	Sampling Logs
Attachment 4	Analytical Laboratory Level II Data Deliverable





Plot Date: 10/23/2019 Plotted By: CS

ATTACHMENT 1

OLD NORTH SEA WORK PLAN

Site-Specific Work Plan for:

**HYDROGEOLOGIC INVESTIGATION
AT THE
OLD NORTH SEA LANDFILL SITE
NYSDEC REGION 1 - SUFFOLK COUNTY
NORTH SEA, NEW YORK**

Prepared For:



New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
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PARSONS

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March 2018

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**Site Specific Work Plan For
Hydrogeologic Investigation
At The Old North Sea 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 in the immediate vicinity of the Old North Sea Landfill Site. As shown on Figure 1, three groundwater monitoring wells will be installed to assess groundwater impacts. Groundwater samples from each well will be collected and analyzed for a suite of potential organic and inorganic contaminants. The sample data will be evaluated to assess whether groundwater quality has been impacted by the landfill.

3.0 SITE SETTING

The landfill is located at 1205 Majors Path, in North Sea, NY. The site is bounded by residential properties on all four sides. The main access to the site is through Straight Path, but an additional entrance southeast of the site is located at Majors Path. The site appears to be surrounded by a perimeter fence. Access to the site was not permitted at the time of the visit on October 12, 2017.

Piles of what appear to be soil are visible from the entrance gate at Straight Path. An odor, possibly from composting, was also observed from this location. Gaining access to this site has reportedly been unsuccessful. Soil sampling from previous investigations on site resulted in elevated lead results (~10,000ppm) near the southeast corner of the site.

3.1 GROUNDWATER AND SURFACE WATER OCCURRENCE AND FLOW

Based on topographic maps of the area, the site appears to be located on an elevated hillside, with a general topographic gradient towards the north. The largest body of water is the North Sea Harbor which is located approximately 900 feet north of the site.

Groundwater is presumed to flow in a northwesterly direction based on the USGS Groundwater Conditions on Long Island Map. Three wells are proposed to be installed at this site. An upgradient well along the secondary gate access road to the site off of Majors Path, one downgradient well in the northwest corner of the site and another downgradient well in northeast corner of the site. The three proposed drilling locations can be accessed with a truck mounted drill rig.

4.0 HYDROGEOLOGICAL INVESTIGATION SCOPE OF WORK

Field activities will be conducted in accordance with the Quality Assurance Project Plan (QAPP), Field Activities Plan (FAP), and Health and Safety Plan (HASP), which have been prepared and approved specifically for the NYSDEC Inactive Landfill Initiative program. Site-specific elements and specific job safety analyses for soil borings, and monitoring well installations will be added to the Health and Safety Plan specifically for the Old North Sea Landfill.

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

The specific field procedures to be used during this investigation are described in the programmatic 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 SUBSURFACE UTILITY CLEARING

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

4.2 MONITORING WELL INSTALLATIONS

Following hand-clearing, the borings will be advanced into the overburden using hollow-stem augers or another acceptable drilling technique based on the soil conditions present. Alternate drilling techniques are described in the FAP. Soil samples will be collected continuously at each boring location. Samples will be physically described in the field using both the Burmeister and USCS soil classification systems. A photoionization detector will be used to record the the headspace readings of each soil sample.

The borings will be advanced to the first water-bearing zone that is considered acceptable for placing a monitoring well that will yield a volume of representative groundwater sufficient for sampling. Based on review of the USGS Long Island Depth to Water Viewer, depth to water is estimated to be between 35 and 50-feet deep in the vicinity of the site. Monitoring wells will be constructed of 2-inch inside-diameter polyvinyl chloride (PVC) casing with a 5 or 10-foot long, #10-slot screen with the screen extending above the water table interface to allow for seasonal fluctuations of the water table. Each monitoring well will be completed with a locking protective flush-mount casing or at least 3 feet of stick-up casing. Modifications to the well design may be made in the field by the supervising geologist based on specific site conditions.

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

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

4.3 GROUNDWATER AND SURFACE WATER SAMPLING

Once well installation and development are complete, a groundwater sample will be retrieved from each well. Groundwater samples will be collected and analyzed as described in the FAP and QAPP. Bailers or low-flow pumps may be used. The wells will be purged prior to sampling, and sampling equipment will be dedicated to that sampling location, or will be decontaminated between sampling locations using the methods provided in the FAP.

The groundwater 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

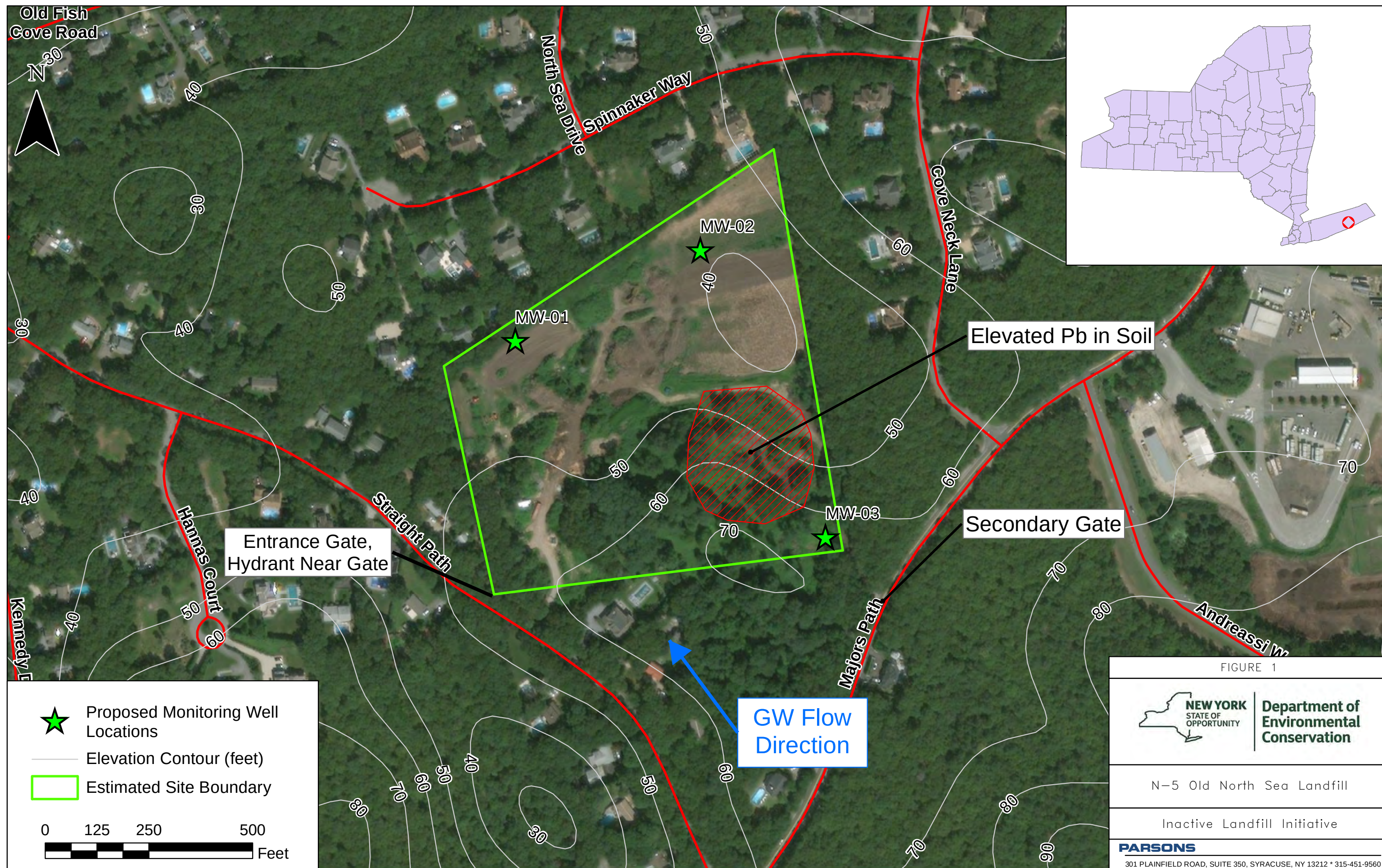
Boring logs, groundwater sampling logs, analytical data, and a site work summary will be provided at the completion for field activities for the site.

TABLE 1 – ANALYTICAL PARAMETERS

Parameter	Method	Parameter	Method
Leachate Indicators		PAHs + 1,4-Dioxane	
Ammonia	350.1 / SM20 4500NH3 B/D	Acenaphthene	8270D SIM
Chemical Oxygen Demand	410.4	Acenaphthylene	8270D SIM
Total Organic Carbon	EPA 9060 / SM20 5310B/C	Anthracene	8270D SIM
Total Dissolved Solids	SM20 2540C	Benzo(a)anthracene	8270D SIM
Sulfate	300	Benzo(a)pyrene	8270D SIM
Alkalinity	SM20 2320B	Benzo(b)fluoranthene	8270D SIM
Chloride	300	Benzo(g,h,i)perylene	8270D SIM
Bromide	300	Benzo(k)fluoranthene	8270D SIM
Total hardness as CaCO3	SM20 2340C	Chrysene	8270D SIM
		Dibenzo(a,h)anthracene	8270D SIM
Inorganics		Fluoranthene	8270D SIM
Aluminum	SW6010C	Fluorene	8270D SIM
Antimony	SW6010C	Indeno(1,2,3-cd)pyrene	8270D SIM
Arsenic	SW6010C	Naphthalene	8270D SIM
Barium	SW6010C	Phenanthrene	8270D SIM
Boron	SW6010C	Pyrene	8270D SIM
Beryllium	SW6010C	1-4-Dioxane	8270D SIM
Cadmium	SW6010C		
Calcium	SW6010C	Perfluorinated Compounds	
Chromium	SW6010C	N-ethyl perfluorooctane sulfonamidoacetic acid	Modified 537
Cobalt	SW6010C	N-methyl perfluorooctane sulfonamidoacetic acid	Modified 537
Copper	SW6010C	Perfluorobutanesulfonic acid (PFBS)	Modified 537
Iron	SW6010C	Perfluorodecanoic acid (PFDA)	Modified 537
Lead	SW6010C	Perfluorododecanoic acid (PFDoA)	Modified 537
Magnesium	SW6010C	Perfluoroheptanoic acid (PFHpA)	Modified 537
Manganese	SW6010C	Perfluorohexanesulfonic acid (PFHxS)	Modified 537
Nickel	SW6010C	Perfluorohexanoic acid (PFHxA)	Modified 537
Potassium	SW6010C	Perfluorononanoic acid (PFNA)	Modified 537
Selenium	SW6010C	Perfluorooctanesulfonic acid (PFOS)	Modified 537
Silver	SW6010C	Perfluorooctanoic acid (PFOA)	Modified 537
Sodium	SW6010C	Perfluorotetradecanoic acid (PFTeA)	Modified 537
Thallium	SW6010C	Perfluorotridecanoic Acid (PFTriA)	Modified 537
Vanadium	SW6010C	Perfluoroundecanoic acid (PFUnA)	Modified 537
Zinc	SW6010C		
Mercury	SW7470A		
Mercury	E1631		
Dissolved Mercury	E1631		

**TABLE 1 – ANALYTICAL PARAMETERS
(Continued)**

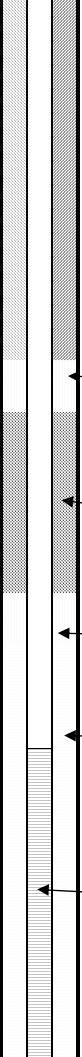
Parameter	Method	Parameter	Method
Volatiles			
Acetone	SW8260C	Ethylbenzene	SW8260C
Acrylonitrile	SW8260C	2-Hexanone	SW8260C
Benzene	SW8260C	Bromomethane	SW8260C
Bromochloromethane	SW8260C	Chloromethane (Methyl chloride)	SW8260C
Bromodichloromethane	SW8260C	Dibromomethane	SW8260C
Bromoform	SW8260C	Methylene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

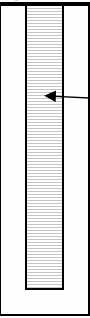


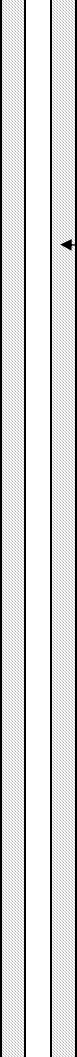
ATTACHMENT 2

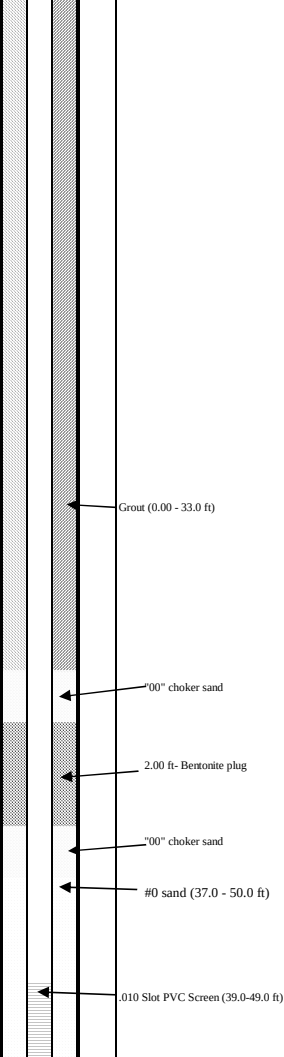
SOIL BORING/WELL INSTALLATION LOGS

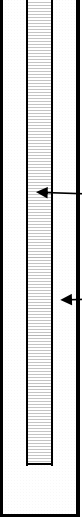
Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO. Page 1 of 3 MW-01 Location Description: Downgradient			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: Measured Water Level: 38 ft bls Total Depth of Well: 46 ft bls Additional Comments:						PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill Date/Time Start: 4/9/18 @ 16:30 Date/Time Finish: 4/10/18 @ 09:20		Location Plan 			
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS		
					1	0-2': Moist, dark brown, loose SAND, some silt, trace fine gravel and fibrous organics. 2-5': Dry, pale orange-tan, fine SAND, trace silt.					
HC			SM	2							
				3							
			SP	4							
				5							
SS	8-6	50	0.0	SP	6	Dry, loose, pale orange - tan, fine SAND.					
SS	8-7-8-8	60	0.0	SP	7	Dry, loose, pale orange - yellow tan, fine SAND.					
					8						
SS	4-4-6-7	30	0.0	SP	9	Dry, loose, gray - tan, fine SAND.					
					10						
SS	5-4-5-6	60	0.0	SP	11	Dry, loose, gray - tan, fine SAND, light orange-gray striations in the bottom foot.					
					12						
SS	9-8-8-7	50	0.0	SP	13	Dry, loose, white - gray, fine SAND, trace fine to medium gravel; light yellow - orange striations.					
					14						
SS	2-2-4-5	40	0.0	SP	15	14-15': Dry, loose, white - gray, fine SAND, trace fine to medium gravel; light yellow - orange striations.					
					16	15-16': Moist, very loose to loose, pale orange-tan, fine SAND.					
SS	6-8-4-7	50	0.0	SP/SM	17	Moist, loose, white - tan, fine SAND, trace medium gravel; pale yellow - tan striations, dark brown SILT and Sand at 17.5'.					
					18						
SS	6-7-10-18	70	0.0	SP	19	Moist, loose - medium dense, light yellow - tan, fine SAND, little fine gravel.					
					20						
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 					

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ Page 2 of 3 WELL NO MW-01		
						PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill		Location Description: Downgradient		
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: ft bls Measured Water Level: 38 ft bls Total Depth of Well: 46 ft bls Additional Comments:						Date/Time Start: 4/9/18 @ 16:30 Date/Time Finish: 4/10/18 @ 09:20		Location Plan 		
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS	
SS	6-8-12-13	60	0.0	SP	21	Moist, loose, white - tan fine SAND, little fine gravel.		 "00" choker sand 2.00 ft- Bentonite plug "00" choker sand #0 sand (34.5-46') .010 Slot PVC Screen (35.5-45.5 ft)		
					22					
SS	9-7-9-8	60	0.0	SP	23	Moist, loose - medium dense, white - tan, fine SAND, little fine gravel.				
					24					
SS	5-10-13-12	80	0.0	SP	25	24-25': Moist, medium dense, white-tan, fine SAND, little medium gravel; light reddish - orange striations.				
					26	25-26': Moist, medium dense, light gray, fine SAND, little medium gravel; light reddish - orange striations.				
SS	13-9-12-9	60	0.0	SP	27	Moist, medium dense, pale yellow - gray - tan, fine SAND.				
					28					
SS	9-7-12-7	50	0.0	SP	29	Moist, loose - medium dense, pale yellow - tan, fine SAND.				
					30					
SS	2-8-11-13	60	0.0	SP	31	Moist, loose to medium dense, pale yellow - tan, fine SAND, little medium gravel.				
					32					
SS	10-11-11-14	50	0.0	SP	33	Moist, medium dense, pale yellow - light tan, fine SAND, little medium gravel.				
					34					
SS	6-8-12-15	60	0.0	SP	35	Moist, medium dense, pale yellow-light tan, fine SAND, trace medium gravel.				
					36					
SS	10-7-9-5	80	0.0	SW	37	Moist, loose - medium dense, pale yellow - gray - light tan, fine SAND; light orange - tan striations. Wet at 37' bgs				
					38					
SS	8-7-6-6	50	0.0		39	Moist, loose, pale yellow - gray - light tan, fine to medium SAND; trace fine gravel.				
					40					
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 				

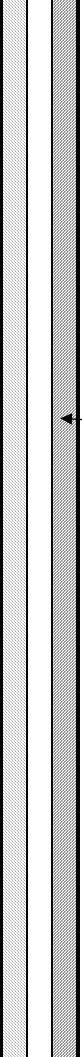
Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ Page 3 of 3 WELL NO MW-01	
						PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill		Location Description: Downgradient	
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: Measured Water Level: 38 ft bls Total Depth of Well: 46 ft bls Additional Comments:						Date/Time Start: 4/9/18 @ 16:30 Date/Time Finish: 4/10/18 @ 09:20		Location Plan 	
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC	COMMENTS
								Drawing Not to Scale	
SS	5-11-12-12	70	0.0	SW	41	41-41.5': Wet, loose - medium dense, pale orange - tan, course to fine SAND, some course to fine gravel.			
					42	41.5-42': Wet, medium dense, tan, fine to course SAND, little fine to coarse gravel.			
SS	10-9-9-11	70	0.0	SW	43	Wet, medium dense, tan, fine to course SAND, little fine to coarse gravel.			
					44				
SS	8-8-6-8	0	0.0		45	No recovery			
					46				
						End of boring @ 46' bgs			
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: _____ _____ _____			

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO. Page 1 of 3 MW-02	
PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill						Location Description: Downgradient			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: Measured Water Level: 38 ft bls Total Depth of Well: 49 ft bls Additional Comments:						Date/Time Start: 4/11/18 @ 12:00 Date/Time Finish: 4/11/18 @ 15:30		Location Plan 	
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
					1	0-2': Moist, loose, dark brown, SILT, some sand, little fibrous organics.			
				2					
HC			0.0	ML	3				
					4	2-5': Moist, loose, tan - brown, SILT, some sand.			
					5				
SS	2-2	30	0.0	SP	6	Moist to dry, very loose, dark tan, fine SAND, trace fine to medium gravel.			
SS	6-6-7-6	30	0.0	SP	7	Dry, loose, dark tan, fine SAND, little fine to medium gravel.			
					8				
SS	2-1-1-2	30	0.0	SP	9	Moist, very loose, light - pale orange - tan, fine SAND, little fine to medium gravel.			
					10				
SS	2-2-1-3	30	0.0	SP	11	Moist, very loose, light - pale orange - tan, fine SAND, little fine to medium gravel.			
					12				
SS	1-1-2-1	20	0.0	SP	13	Moist, very loose, pale orange - tan, fine to medium SAND, little fine to medium gravel.			
					14				
SS	6-10-11-11	80	0.0	SP	15	14-15': Moist, very loose, pale orange - tan, fine to medium SAND, little fine to medium gravel.			
					16	15-16': Moist, loose, white-gray-tan, SILT, some fine sand, trace fine gravel.			
SS	6-10-13-13	50	0.0	ML/SP	17	16-17': Dry, stiff, orange - gray - tan, SILT, some fine sand, trace fine gravel.			
					18	17-18': Moist, loose, white-gray-tan, fine SAND.			
SS	9-14-16-17	80	0.0	GP/SP	19	18-19': Dry, medium dense, light tan, fine to medium GRAVEL, some fine sand.			
					20	19-20': Moist, medium dense, light pale orange-tan, fine SAND, little fine to medium gravel.			
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS = Split Spoon						COMMENTS: 			

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO Page 2 of 3 MW-02	
PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill						Location Description: Downgradient			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: ft bls Measured Water Level: 38 ft bls Total Depth of Well: 49 ft bls Additional Comments:						Date/Time Start: 4/11/18 @ 12:00 Date/Time Finish: 4/11/18 @ 15:30		Location Plan 	
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
SS	9-10-10-12	60	0.0	SP	21	Moist, loose - medium dense, pale orange - tan, fine SAND, some fine to medium gravel; orange - brown striations.			
					22				
SS	11-13-17-18	60	0.0	SP	23	Moist, medium dense, pale orange - white - tan, fine SAND, little medium to course gravel.			
					24				
SS	9-10-17-16	100	0.0	SP	25	Moist, medium dense, pale orange - white - tan, fine SAND, some fine to medium gravel.			
					26				
SS	10-10-12-13	50	0.0	SP/GP	27	26-27': Moist, medium dense, pale orange-white-tan, fine SAND, some fine to medium gravel.			
					28	27-28': Dry, medium dense, fine to medium GRAVEL, some fine to medium sand.			
SS	9-6-7-7	90	0.0	SP	29	Moist, loose, pale orange - white - tan, fine SAND, little fine to medium gravel; dark tan striations.			
					30				
SS	8-9-9-11	70	0.0	SP	31	Moist, loose - medium dense, pale gray - tan, fine SAND, trace fine to medium gravel.			
					32				
SS	11-12-16-18	60	0.0	SP	33	Dry, medium dense, pale gray - tan, fine SAND, some medium to course gravel.			
					34				
SS	11-12-15-17	100	0.0	SM	35	Moist, medium dense, gray - brown - tan, fine SAND, little silt, trace fine gravel.			
					36				
SS	10-9-13-17	100	0.0	SM	37	Moist, loose - medium dense, gray - brown - tan, fine SAND, some silt, trace fine g			
					38				
SS	7-7-6-8	100	0.0	SM	39	Wet, loose, brown-gray-tan, fine SAND, some silt.			
					40				
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 			

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO: MW-02 Page 3 of 3 Location Description: Downgradient	
PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill						Date/Time Start: 4/11/18 @ 12:00 Date/Time Finish: 4/11/18 @ 15:30		Location Plan 	
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: ft bls Measured Water Level: 38 ft bls Total Depth of Well: 49 ft bls Additional Comments:									
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
SS	4-4-8-10	30	0.0	SM	41	Wet, loose, fine to medium SAND, some silt, trace fine to medium gravel			
					42				
SS	5-7-8-14	100	0.0	SM/SW	43	42-43': Wet, loose, fine to medium SAND, some silt, travel fine to medium gravel.			
					44	43-44': Wet, medium dense, reddish-orange-tan, fine to coarse SAND, trace silt, trace fine to medium gravel			
SS	1-1-5-3	50	0.0	SW	45	Wet, medium dense, reddish-orange-tan, fine to coarse SAND, trace silt, trace fine to medium gravel			
					46				
SS	2-3-3-7	100	0.0	SW	47	Wet, loose, light orange-gray-tan, fine to coarse SAND, trace fine to medium gravel.			
					48				
SS	2-3-5-8	70	0.0	SW	49	Wet, very loose to loose, light orange-gray-tan, fine to coarse SAND, little fine to medium gravel.			
					50				
					51	End of boring @ 50' bgs			
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 			

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO. Page 1 of 4 MW-03	
PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill						Location Description: Downgradient			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: Measured Water Level: 62 ft bls Total Depth of Well: 72 ft bls Additional Comments:						Date/Time Start: 4/10/18 12:50 Date/Time Finish: 4/10/18 16:30		Location Plan 	
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
					1	0-2': Moist, dark brown, loose SAND, some silt, little fine gravel and fibrous organics.			
HC	-	-	-	ML	2				
					3				
					4	2-5': Moist, light - pale orange - tan, fine SAND, little silt, little coarse sand.			
					5				
SS	5-3	50	0.0	SP	6	Moist, very loose - loose, light orange- gray - tan, fine SAND, trace fine to medium gravel.			
SS	2-3-2-2	80	0.0	ML	7	Moist, very loose, pale - light orange - gray - tan, fine SAND, trace medium gravel.			
					8				
SS	3-4-5-4	90	0.0	SW	9	Dry, loose, pale - light orange - gray - tan, fine to medium SAND, little fine to medium gravel.			
					10				
SS	2-3-3-5	70	0.0	SP	11	Dry, loose, pale - light orange - gray - tan, fine SAND; light orange - brown striations.			
					12				
SS	5-8-8-4	70	0.0	SP	13	Dry, loose, pale - light orange - gray - tan, fine SAND, trace medium gravel; 1/4" dark brown lense @ 13.5-ft bg.			
					14				
SS	4-3-3-5	60	0.0	SW	15	Dry, loose, pale - light orange - gray - tan fine SAND, trace medium gravel.			
					16				
SS	8-8-6-6	70	0.0	SW	17	Dry, loose, pale - light orange - gray - tan, fine SAND, trace fine gravel; 1/4" thick sand with some silt lense @ 17.5-ft bg.			
					18				
SS	3-3-4-5	80	0.0		19	Dry, very loose to loose, pale - light orange - white - tan, fine SAND, little fine gravel.			
					20				
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 			

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO Page 2 of 4 MW-03	
PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill						Location Description: Downgradient			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: Measured Water Level: 62 ft bls Total Depth of Well: 72 ft bls Additional Comments: 						Date/Time Start: 4/10/18 12:50 Date/Time Finish: 4/10/18 16:30		Location Plan 	
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	
SS	8-4-6-6	50	0.0	SP	21	Dry, loose, pale - light orange - white - tan, fine SAND, trace fine to medium gravel.		 Grout (0.00 - 54.0 ft)	
					22				
SS	5-7-7-9	80	0.0	SW	23	Dry, loose, pale - light orange - white -tan, fine SAND, little fine to medium gravel.			
					24				
SS	7-9-9-8	60	0.0	SP	25	Dry, loose, pale - light orange - white -tan, fine SAND, little fine to medium gravel.			
					26				
SS	13-9-9-7	50	0.0	SW	27	Dry, medium dense - loose, pale - light gray - tan, fine SAND, little medium gravel.			
					28				
SS	9-10-5-7	50	0.0	SW	29	Dry, medium dense - loose, pale - light gray - tan, fine SAND, little fine to medium gravel; light orange - tan striations.			
					30				
SS	6-8-7-9	60	0.0	SW	31	Moist, loose, pale - light gray - tan, fine SAND, trace coarse sand.			
					32				
SS	11-11-11-9	60	0.0	SW	33	Moist, medium dense, pale - light gray - tan fine SAND, little medium gravel.			
					34				
SS	9-11-9-9	70	0.0	SW	35	Moist, loose - medium dense, pale - light gray - tan, fine SAND, trace fine to medium gravel; gray - brown striations.			
					36				
SS	10-9-12-9	70	0.0	SW/ML	37	Moist, loose - medium dense, pale - light gray - tan, fine SAND, trace fine to medium gravel; @ 37.8-ft soil transitions into a medium stiff CLAY with some silt, trace fine gravel.			
					38				
SS	7-11-13-10	70	0.0	ML	39	Moist, soft - medium stiff, gray - brown, SILT, some clay, trace medium gravel, trace fine sand.			
					40				
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 			

Contractor: Parratt Wolff Driller: Jolaan Price Oversight: Tom Horn Rig Type: CME-55						PARSONS DRILLING RECORD		BORING/ WELL NO: Page 3 of 4 MW-03	
PROJECT NAME: NYSDEC -- Inactive Landfill Initiative PROJECT LOCATION: Old North Sea Landfill						Location Description: Downgradient			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: Measured Water Level: 62 ft bls Total Depth of Well: 72 ft bls Additional Comments:						Date/Time Start: 4/10/18 12:50 Date/Time Finish: 4/10/18 16:30		Location Plan 	
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
SS	8-10-11-13	100	0.0	ML	41	Moist, medium stiff to stiff, gray - brown, SILT, trace clay, trace fine sand.			
					42				
SS	20-21-20-22	90	0.0	ML	43	Moist, very stiff, gray - brown, SILT, trace clay, trace fine sand.			
					44				
SS	11-15-16-17	80	0.0	SM	45	44-45.5': Moist, very stiff, gray - brown, SILT, trace clay, trace fine sand.			
					46	45.5-46': Moist, medium dense, light gray-brown-tan, fine to medium SAND, little silt.			
SS	18-12-15-12	70	0.0	SM	47	Moist, medium dense, light gray-brown-tan, fine to medium SAND, little silt.			
					48				
SS	10-15-12-17	80	0.0	SP	49	Moist, medium dense, light gray-brown-tan, fine SAND, trace silt.			
					50				
SS	9-11-15-24	80	0.0	SM	51	Moist, medium dense, light gray - tan, fine SAND, trace medium gravel.			
					52				
SS	18-20-21-20	90	0.0	ML	53	Moist, medium stiff, light olive - gray - brown, SILT, little fine sand.			
					54				
SS	13-15-17-24	90	0.0	SM/ML	55	54-55': Moist, medium stiff, light olive - gray - brown, SILT, little fine sand.			
					56	55-56': Moist, medium dense, light gray - tan, fine SAND, little silt.			
SS	26-19-29-28	100	0.0	ML	57	Moist, medium stiff, light olive -gray - brown SILT, little fine sand, trace medium gravel.			
					58				
SS	10-9-15-17	100	0.0	ML	59	Moist, soft - medium stiff, light olive -gray - brown SILT, little fine sand, trace medium gravel.			
					60				
SAMPLING METHOD HC = Hand Cleared (post hole) to 5 feet SS= Split Spoon						COMMENTS: 			

ATTACHMENT 3

SAMPLING LOGS

Low Flow Ground Water Sampling Log

Date	5/1/2018	Personnel	TH and KV	Weather	57 degrees F
Site Name	Old North Sea Landfill	Evacuation Method	ESP	Well #	MW-01
Site Location	NYSDEC Region 1	Sampling Method	ESP	Project #	450619.02000

Well information:

Depth of Well	45.5 ft.	*Measurements taken from:	
Depth to Water	38.75 ft.		X Top of Well Casing
H _{wc}	6.75 ft.		Top of Protective Casing
Depth to Intake	42.5 ft.		(Other, Specify)

Start Purge Time: 1135

		10%	0.1	3%	10 mV	10%	10%	100 - 500 mL/min
Time	Depth to Water (ft)	Temperature (celsius)	pH	Conductivity (ms/cm)	Oxidation Reduction Potential	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)
1135	38.75	16.04	6.17	0.308	130	4.04	592	300
1140	38.75	13.65	6.08	0.267	126	0.54	418	300
1145	38.75	13.93	6.00	0.259	134	0.24	366	300
1150	38.75	13.58	5.96	0.263	142	0.13	260	300
1155	38.75	13.55	5.93	0.267	146	0.03	140	300
1200	38.75	13.41	5.92	0.268	149	0.01	124	300
1205	38.75	13.35	5.92	0.266	151	0.02	105	300
1210	38.75	13.35	5.94	0.264	159	0.13	79.0	300
1215	38.75	13.33	5.94	0.264	160	0.10	74.9	300
1220	38.75	13.37	5.95	0.263	163	0.09	75.8	300
1225	38.75	13.30	5.96	0.263	164	0.10	55.9	300
1230	38.75	13.33	5.96	0.263	165	0.11	53.7	300
1235	38.75	13.34	5.96	0.263	166	0.11	48.3	300

Water Sample (sample, MS/MSD, dup)

Time Collected: 1235 Total volume of purged water removed: 4.75 gallons

Physical appearance at start: Physical appearance at stop:

Color light brown, s. cloudy Color clear

Odor none Odor none

Sheen/Free Product none Sheen/Free Product none

Low Flow Ground Water Sampling Log

Date	5/2/2018	Personnel	TH and KV	Weather	70 degrees F
Site Name	Old North Sea Landfill	Evacuation Method	ESP	Well #	MW-02
Site Location	NYSDEC Region 1	Sampling Method	ESP	Project #	450619.02000

Well information:

Depth of Well 52.00 ft.
 Depth to Water 42.32 ft.
 H_{wc} 9.68 ft.
 Depth to Intake 47.5 ft.

*Measurements taken from:

<u>X</u>	Top of Well Casing
	Top of Protective Casing
	(Other, Specify)

Start Purge Time 1000

		10%	0.1	3%	10 mV	10%	10%	100 - 500 mL/min
Time	Depth to Water (ft)	Temperature (celsius)	pH	Conductivity (ms/cm)	Oxidation Reduction Potential	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)
1000	42.32	15.50	6.42	0.323	87	0.42	90.8	425
1005	42.33	14.51	6.23	0.323	44	0.32	64.7	425
1010	42.33	14.45	6.21	0.323	37	0.25	52.0	425
1015	42.33	14.39	6.21	0.325	35	0.32	41.2	425
1020	42.33	14.30	6.23	0.327	30	0.24	34.8	425
1025	42.33	14.28	6.24	0.328	27	0.21	31.6	425
1030	42.33	14.26	6.26	0.296	24	0.26	27.2	425
1035	42.33	14.25	6.27	0.295	23	0.25	25.4	425
1040	42.33	14.25	6.28	0.295	22	0.24	24.2	425
1045	42.33	14.23	6.28	0.296	21	0.24	21.5	425

End Purge Time: 1045

Water Sample

 Time Collected: 1045

 Total volume of purged water removed: 5 gallons

Physical appearance at start:

Physical appearance at stop:

Color s. cloudy
 Odor none
 Sheen/Free Product none

Color clear
 Odor none
 Sheen/Free Product none

ATTACHMENT 4

ANALYTICAL LABORATORY LEVEL II DATA DELIVERABLE

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

e-Hardcopy 2.0
Automated Report

Technical Report for

Parsons Engineering Science for ILI

PESNYL: ILI - Region 1, Old North Sea Landfill, NY

450619

SGS Job Number: JC65355

Sampling Dates: 05/01/18 - 05/02/18

Report to:

Parsons Engineering Science

Heather.Fettig@parsons.com

ATTN: Heather Fettig

Total number of pages in report: **263**



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.

Nancy F. Cole

Nancy Cole
Laboratory Director

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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Test results relate only to samples analyzed.



May 31, 2018

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

Re: SGS North America – Dayton, NJ Job # JC65355 – Reissue

Dear Ms. Weishaupt,

The final report for SGS job number JC65355 has been edited to reflect corrections to the final results. These edits have been incorporated into the attached revised report.

Specifically, the reporting limits for the organic portion were revised to “ug/l.” The visions were made to meet client requirements.

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

Sincerely,

Kristin Beebe DeGraw

Project Manager



CONTINUOUS SERVICE IMPROVEMENT!

Our goal is to continuously improve our service to you. Please share your ideas about how we can serve you better at

EHS.US.CustomerCare@sgs.com. Your feedback is appreciated!



SGS North America 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

Job No: JC65355

PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Project No: 450619

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC65355-1	05/01/18	11:15 TH	05/02/18	AQ	Equipment Blank	1-SUF-009-001-01
JC65355-2	05/01/18	11:17 TH	05/02/18	AQ	Field Blank Water	1-SUF-009-001-02
JC65355-3	05/01/18	12:35 TH	05/02/18	AQ	Ground Water	1-SUF-009-001-03
JC65355-3D	05/01/18	12:35 TH	05/02/18	AQ	Water Dup/MSD	1-SUF-009-001-03
JC65355-3F	05/01/18	12:35 TH	05/02/18	AQ	Groundwater Filtered	1-SUF-009-001-03
JC65355-3FD	05/01/18	12:35 TH	05/02/18	AQ	Water Dup/MSD	1-SUF-009-001-03
JC65355-3FS	05/01/18	12:35 TH	05/02/18	AQ	Water Matrix Spike	1-SUF-009-001-03
JC65355-3S	05/01/18	12:35 TH	05/02/18	AQ	Water Matrix Spike	1-SUF-009-001-03
JC65355-4	05/01/18	12:35 TH	05/02/18	AQ	Ground Water	1-SUF-009-001-04
JC65355-4F	05/01/18	12:35 TH	05/02/18	AQ	Groundwater Filtered	1-SUF-009-001-04
JC65355-5	05/02/18	10:45 TH	05/02/18	AQ	Trip Blank Water	1-SUF-009-001-05
JC65355-6	05/02/18	10:35 TH	05/02/18	AQ	Field Blank Water	1-SUF-009-001-06
JC65355-7	05/02/18	10:45 TH	05/02/18	AQ	Ground Water	1-SUF-009-001-07



Sample Summary
(continued)

Parsons Engineering Science for ILI

Job No: JC65355

PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Project No: 450619

Sample Number	Collected		Matrix			Client
	Date	Time By	Received	Code	Type	Sample ID
JC65355-7F	05/02/18	10:45 TH	05/02/18	AQ	Groundwater Filtered	1-SUF-009-001-07

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Parsons Engineering Science for ILI

Job No JC65355

Site: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Report Date 5/22/2018 4:51:04 PM

On 05/02/2018, 6 Sample(s), 1 Trip Blank(s) and 2 Field Blank(s) and 1 Equipment Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 5.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC65355 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: V2A7933

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC65355-3MS, JC65355-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC65355-7 for Chloroethane: Associated CCV outside of control limits low.
- JC65355-3 for Chloroethane: Associated CCV outside of control limits low.
- JC65355-3 for Bromoform: Associated CCV outside of control limits high, sample was ND.
- JC65355-4 for Bromoform: Associated CCV outside of control limits high, sample was ND.
- JC65355-4 for Chloroethane: Associated CCV outside of control limits low.
- JC65355-5 for Bromoform: Associated CCV outside of control limits high, sample was ND.
- JC65355-5 for Chloroethane: Associated CCV outside of control limits low.
- JC65355-7 for Bromoform: Associated CCV outside of control limits high, sample was ND.

Tuesday, May 22, 2018

Page 1 of 4

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ

Batch ID: F:OP69978

- The data for EPA 537M BY ID meets quality control requirements.
- JC65355-3: Analysis performed at SGS Orlando, FL.
- JC65355-3: Analysis performed at SGS Orlando, FL.
- JC65355-6: Analysis performed at SGS Orlando, FL.
- JC65355-7: Analysis performed at SGS Orlando, FL.
- JC65355-7: Analysis performed at SGS Orlando, FL.
- JC65355-4: Analysis performed at SGS Orlando, FL.
- JC65355-4: Analysis performed at SGS Orlando, FL.
- JC65355-1: Analysis performed at SGS Orlando, FL.
- JC65355-2: Analysis performed at SGS Orlando, FL.
- JC65355-6 for Perfluorobutanoic acid: Associated BS outside control limits high. Sample was ND.
- JC65355-7 for Perfluorooctanesulfonic acid: Associated BS outside control limits high. Sample was ND.
- JC65355-2 for Perfluorobutanoic acid: Associated BS outside control limits high. Sample was ND.
- JC65355-1 for Perfluorobutanoic acid: Associated BS outside control limits high. Sample was ND.
- JC65355-1 for Perfluorooctanesulfonic acid: Associated BS outside control limits high. Sample was ND.
- JC65355-2 for Perfluorooctanesulfonic acid: Associated BS outside control limits high. Sample was ND.

Matrix: AQ

Batch ID: F:OP70035

- The data for EPA 537M BY ID meets quality control requirements.
- JC65355-6: Analysis performed at SGS Orlando, FL.

MS Semi-volatiles By Method SW846 8270D BY SIM

Matrix: AQ

Batch ID: OP11756A

- All samples were extracted within the recommended method holding time.
- Sample(s) JC65355-3MS, JC65355-3MSD were used as the QC samples indicated.
- Sample(s) JC65355-4, JC65355-7 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- JC65355-7: Sample reextracted outside the holding time for confirmation.
- JC65355-4: Sample reextracted outside the holding time for confirmation.
- JC65355-7 for Benzo(k)fluoranthene: Associated CCV outside of control limits low.
- JC65355-4 for Benzo(k)fluoranthene: Associated CCV outside of control limits low.
- JC65355-3 for Benzo(k)fluoranthene: Associated CCV outside of control limits low.

Matrix: AQ

Batch ID: OP12102A

- The data for SW846 8270D BY SIM meets quality control requirements.
- JC65355-7: Confirmation run.
- JC65355-4: Confirmation run.

Metals Analysis By Method SW846 6010C

Matrix: AQ

Batch ID: MP7055

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3FMS, JC65355-3FMSD, JC65355-3FSDL, JC65355-3MS, JC65355-3MSD, JC65355-3SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Boron, Copper, Iron, Nickel, Zinc are outside control limits for sample MP7055-SD1, MP7055-SD2. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 7470A

Matrix: AQ

Batch ID: MP6973

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3FMS, JC65355-3FMSD, JC65355-3MS, JC65355-3MSD were used as the QC samples for metals.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ

Batch ID: GP13182

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3DUP, JC65355-7MS, JC65355-3MS were used as the QC samples for Bromide, Chloride, Sulfate, Bromide.
- Matrix Spike Recovery(s) for Sulfate are outside control limits. Spike recovery indicates possible matrix interference.

General Chemistry By Method SM2320 B-11

Matrix: AQ

Batch ID: GN79668

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC65355-3 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC65355-4 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC65355-7 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: GN79684

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3DUP, JC65355-3MS were used as the QC samples for Hardness, Total as CaCO₃.

General Chemistry By Method SM2540 C-11

Matrix: AQ

Batch ID: GN79542

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ

Batch ID: GP12876

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3DUP, JC65355-3MS, JC65355-3MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM5220 C-11,HACH8000

Matrix: AQ

Batch ID: GP12903

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3DUP, JC65355-3MS were used as the QC samples for Chemical Oxygen Demand.

General Chemistry By Method SW846 9060A

Matrix: AQ

Batch ID: GP13032

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC65355-3MS, JC65355-3MSD were used as the QC samples for Total Organic Carbon.

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

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

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

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ

Job No: JC65355

Site: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Report Date: 5/17/2018 6:53:56 PM

4 Sample(s) and 2 Field Blank(s) were collected on/ between 05/01/2018 and 05/02/2018 and were received at SGS North America Inc - Orlando on 05/05/2018 properly preserved, at 3.2 Deg. C and intact. These Samples received an SGS Orlando job number of JC65355. 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: OP69978

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) JC65355-3MS, JC65355-3MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Perfluorobutanoic acid, Perfluorooctanesulfonic acid are outside control limits.

Matrix Spike Recovery(s) for Perfluorobutanoic acid, Perfluorooctanesulfonic acid are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for Perfluorooctanesulfonic acid are outside control limits. Probable cause is due to matrix interference.

Sample(s) OP70035-BS have surrogates outside control limits.

JC65355-1 for Perfluorobutanoic acid: Associated BS outside control limits high. Sample was ND.

JC65355-1 for Perfluorooctanesulfonic acid: Associated BS outside control limits high. Sample was ND.

JC65355-2 for Perfluorobutanoic acid: Associated BS outside control limits high. Sample was ND.

JC65355-2 for Perfluorooctanesulfonic acid: Associated BS outside control limits high. Sample was ND.

JC65355-6 for Perfluorobutanoic acid: Associated BS outside control limits high. Sample was ND.

JC65355-7 for Perfluorooctanesulfonic acid: Associated BS outside control limits high. Sample was ND.

Matrix: AQ

Batch ID: OP70035

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) OP70035-BS have surrogates outside control limits.

OP70035-BS: Insufficient sample for MS/MSD.

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: JC65355
Account: Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Collected: 05/01/18 thru 05/02/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC65355-1 1-SUF-009-001-01

No hits reported in this sample.

JC65355-2 1-SUF-009-001-02

No hits reported in this sample.

JC65355-3 1-SUF-009-001-03

1,4-Dichlorobenzene	5.4	1.0	0.50	ug/l	SW846 8260C
Perfluorobutanoic acid ^a	3.14 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	2.34 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	2.77 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid ^a	1.57 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid ^a	7.18	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid ^a	2.42	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid ^a	7.16	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid ^a	4.43	2.0	1.5	ng/l	EPA 537M BY ID
Barium	0.127 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.0703 J	0.10	0.013	mg/l	SW846 6010C
Manganese	0.294	0.015	0.00042	mg/l	SW846 6010C
Nickel	0.0034 J	0.010	0.0013	mg/l	SW846 6010C
Alkalinity, Total as CaCO ₃ ^b	127	5.0	1.1	mg/l	SM2320 B-11
Chloride	11.0	2.0	0.070	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃	163	4.0	2.5	mg/l	SM2340 C-11
Nitrogen, Ammonia	0.40	0.20	0.14	mg/l	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	278	10	1.8	mg/l	SM2540 C-11
Sulfate	16.9	2.0	0.53	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	3.9	1.0	0.60	mg/l	SW846 9060A

JC65355-3F 1-SUF-009-001-03

Barium	0.127 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.0726 J	0.10	0.013	mg/l	SW846 6010C
Manganese	0.302	0.015	0.00042	mg/l	SW846 6010C
Nickel	0.0036 J	0.010	0.0013	mg/l	SW846 6010C

JC65355-4 1-SUF-009-001-04

1,4-Dichlorobenzene	4.1	1.0	0.50	ug/l	SW846 8260C
Perfluorobutanoic acid ^a	3.32 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	2.62 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	2.78 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid ^a	1.65 J	2.0	1.0	ng/l	EPA 537M BY ID

Summary of Hits

Job Number: JC65355

Account: Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Collected: 05/01/18 thru 05/02/18

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Perfluorooctanoic acid ^a		7.22	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid ^a		1.90 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid ^a		7.60	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid ^a		4.25	2.0	1.5	ng/l	EPA 537M BY ID
1,4-Dioxane ^c		0.0603 JB	0.10	0.049	ug/l	SW846 8270D BY SIM
Barium		0.128 J	0.20	0.0013	mg/l	SW846 6010C
Boron		0.0719 J	0.10	0.013	mg/l	SW846 6010C
Manganese		0.307	0.015	0.00042	mg/l	SW846 6010C
Nickel		0.0039 J	0.010	0.0013	mg/l	SW846 6010C
Alkalinity, Total as CaCO ₃ ^b		125	5.0	1.1	mg/l	SM2320 B-11
Chemical Oxygen Demand		9.9 J	20	6.3	mg/l	SM5220 C-11,HACH8000
Chloride		11.0	2.0	0.070	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃		155	4.0	2.5	mg/l	SM2340 C-11
Nitrogen, Ammonia		0.38	0.20	0.14	mg/l	SM4500NH3 H-11LACHAT
Solids, Total Dissolved		291	10	1.8	mg/l	SM2540 C-11
Sulfate		17.0	2.0	0.53	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		3.9	1.0	0.60	mg/l	SW846 9060A

JC65355-4F 1-SUF-009-001-04

Barium	0.127 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.0706 J	0.10	0.013	mg/l	SW846 6010C
Manganese	0.298	0.015	0.00042	mg/l	SW846 6010C
Nickel	0.0037 J	0.010	0.0013	mg/l	SW846 6010C

JC65355-5 1-SUF-009-001-05

No hits reported in this sample.

JC65355-6 1-SUF-009-001-06

No hits reported in this sample.

JC65355-7 1-SUF-009-001-07

Perfluorobutanoic acid ^a	2.14 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid ^a	5.64	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanoic acid ^a	1.17 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid ^a	1.88 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid ^a	2.09	2.0	1.0	ng/l	EPA 537M BY ID
1,4-Dioxane ^c	0.555 B	0.099	0.048	ug/l	SW846 8270D BY SIM
Barium	0.0645 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.110	0.10	0.013	mg/l	SW846 6010C
Iron	4.35	0.10	0.032	mg/l	SW846 6010C
Manganese	1.01	0.015	0.00042	mg/l	SW846 6010C

Summary of Hits

Job Number: JC65355
Account: Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Collected: 05/01/18 thru 05/02/18

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Nickel		0.0020 J	0.010	0.0013	mg/l	SW846 6010C
Alkalinity, Total as CaCO ₃ ^b		128	5.0	1.1	mg/l	SM2320 B-11
Bromide		0.14 J	0.50	0.060	mg/l	EPA 300/SW846 9056A
Chemical Oxygen Demand		14.8 J	20	6.3	mg/l	SM5220 C-11,HACH8000
Chloride		27.7	4.0	0.14	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃		167	4.0	2.5	mg/l	SM2340 C-11
Nitrogen, Ammonia		1.5	0.20	0.14	mg/l	SM4500NH3 H-11LACHAT
Solids, Total Dissolved		227	10	1.8	mg/l	SM2540 C-11
Sulfate		66.2	10	2.7	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		3.2	1.0	0.60	mg/l	SW846 9060A

JC65355-7F 1-SUF-009-001-07

Barium	0.0620 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.107	0.10	0.013	mg/l	SW846 6010C
Iron	3.86	0.10	0.032	mg/l	SW846 6010C
Manganese	0.973	0.015	0.00042	mg/l	SW846 6010C
Nickel	0.0021 J	0.010	0.0013	mg/l	SW846 6010C

- (a) Analysis performed at SGS Orlando, FL.
 (b) Sample was titrated to a final pH of 4.5.
 (c) Sample reextracted outside the holding time for confirmation.



Dayton, NJ

Section 4

4

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-01	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-1	Date Received:	05/02/18
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q46057.D	1	05/10/18 02:20	AFL	05/08/18 16:00	F:OP69978	F:SQ1132
Run #2							

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

PFAS List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	89%		30-140%
	13C5-PFPeA	89%		40-140%
	13C5-PFHxA	92%		50-150%
	13C4-PFHpA	94%		50-150%
	13C8-PFOA	96%		50-150%
	13C9-PFNA	96%		50-150%
	13C6-PFDA	94%		50-150%
	13C7-PFUnDA	74%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1-SUF-009-001-01	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-1	Date Received:	05/02/18
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	69%		50-150%
	13C2-PFTeDA	72%		40-150%
	13C3-PFBS	90%		50-150%
	13C3-PFHxS	92%		50-150%
	13C8-PFOS	81%		50-150%
	13C8-FOSA	114%		30-140%
	d3-MeFOSAA	93%		50-150%
	13C2-6:2FTS	92%		50-150%
	13C2-8:2FTS	111%		50-150%

- (a) Analysis performed at SGS Orlando, FL.
(b) Associated BS outside control limits high. Sample was ND.

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

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-02	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-2	Date Received:	05/02/18
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q46058.D	1	05/10/18 02:40	AFL	05/08/18 16:00	F:OP69978	F:SQ1132
Run #2							

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

PFAS List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	86%		30-140%
	13C5-PFPeA	87%		40-140%
	13C5-PFHxA	91%		50-150%
	13C4-PFHpA	94%		50-150%
	13C8-PFOA	94%		50-150%
	13C9-PFNA	84%		50-150%
	13C6-PFDA	76%		50-150%
	13C7-PFUnDA	65%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1-SUF-009-001-02	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-2	Date Received:	05/02/18
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	66%		50-150%
	13C2-PFTeDA	70%		40-150%
	13C3-PFBS	90%		50-150%
	13C3-PFHxS	92%		50-150%
	13C8-PFOS	67%		50-150%
	13C8-FOSA	43%		30-140%
	d3-MeFOSAA	77%		50-150%
	13C2-6:2FTS	91%		50-150%
	13C2-8:2FTS	80%		50-150%

- (a) Analysis performed at SGS Orlando, FL.
(b) Associated BS outside control limits high. Sample was ND.

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

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A186928.D	1	05/04/18 09:50	VP	n/a	n/a	V2A7933
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform ^a	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	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 ^b	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	5.4	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

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		80-120%
17060-07-0	1,2-Dichloroethane-D4	102%		81-124%
2037-26-5	Toluene-D8	96%		80-120%
460-00-4	4-Bromofluorobenzene	87%		80-120%

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

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

(b) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P67824.D	1	05/17/18 18:00	JB	05/04/18 01:45	OP11756A	E3P3226
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.098	0.024	ug/l	
208-96-8	Acenaphthylene	ND	0.098	0.021	ug/l	
120-12-7	Anthracene	ND	0.098	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.049	0.022	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.049	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.098	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.098	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene ^a	ND	0.098	0.032	ug/l	
218-01-9	Chrysene	ND	0.098	0.025	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.098	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.098	0.022	ug/l	
86-73-7	Fluorene	ND	0.098	0.024	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.098	0.037	ug/l	
91-20-3	Naphthalene	ND	0.098	0.029	ug/l	
85-01-8	Phenanthrene	ND	0.098	0.023	ug/l	
129-00-0	Pyrene	ND	0.098	0.019	ug/l	
123-91-1	1,4-Dioxane	ND	0.098	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		29-124%
321-60-8	2-Fluorobiphenyl	64%		23-122%
1718-51-0	Terphenyl-d14	80%		22-130%

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q46059.D	1	05/10/18 02:59	AFL	05/08/18 16:00	F:OP69978	F:SQ1132
Run #2 ^a	Q46177.D	1	05/11/18 17:49	AFL	05/08/18 16:00	F:OP69978	F:SQ1134

	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	3.14 ^b	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	2.34	4.0	1.0	ng/l	J
307-24-4	Perfluorohexanoic acid	2.77	4.0	1.0	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.57	2.0	1.0	ng/l	J
335-67-1	Perfluorooctanoic acid	7.18	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	1.0	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	2.42	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	7.16	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	4.43 ^b	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA		56%	30-140%
	13C5-PFPeA	67%		40-140%
	13C5-PFHxA	76%		50-150%
	13C4-PFHpA	84%		50-150%
	13C8-PFOA	88%		50-150%
	13C9-PFNA	83%		50-150%
	13C6-PFDA	71%		50-150%
	13C7-PFUnDA	53%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	53%		50-150%
	13C2-PFTeDA	64%		40-150%
	13C3-PFBS	71%		50-150%
	13C3-PFHxS	76%		50-150%
	13C8-PFOS		56%	50-150%
	13C8-FOSA	35%		30-140%
	d3-MeFOSAA	69%		50-150%
	13C2-6:2FTS	93%		50-150%
	13C2-8:2FTS	86%		50-150%

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 1-SUF-009-001-03	Date Sampled: 05/01/18
Lab Sample ID: JC65355-3	Date Received: 05/02/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY	

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Barium	0.127 J	0.20	0.0013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00040	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Boron	0.0703 J	0.10	0.013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Chromium	ND	0.010	0.00085	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Copper	ND	0.010	0.0032	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Iron	ND	0.10	0.032	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Lead	ND	0.0030	0.0026	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Manganese	0.294	0.015	0.00042	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Mercury	ND	0.00020	0.00013	mg/l	1	05/04/18	05/04/18	JA SW846 7470A ¹	SW846 7470A ³
Nickel	0.0034 J	0.010	0.0013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Selenium	ND	0.010	0.0066	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Thallium	ND	0.0020	0.0016	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA44336

(2) Instrument QC Batch: MA44379

(3) Prep QC Batch: MP6973

(4) Prep QC Batch: MP7055

RL = Reporting Limit
MDL = Method Detection Limit

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

Report of Analysis

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 ^a	127	5.0	1.1	mg/l	1	05/07/18 11:58	CD	SM2320 B-11
Bromide	ND	0.50	0.060	mg/l	1	05/19/18 18:10	NV	EPA 300/SW846 9056A
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	05/09/18 09:22	MP	SM5220 C-11,HACH8000
Chloride	11.0	2.0	0.070	mg/l	1	05/19/18 18:10	NV	EPA 300/SW846 9056A
Hardness, Total as CaCO3	163	4.0	2.5	mg/l	1	05/07/18 17:46	ST	SM2340 C-11
Nitrogen, Ammonia	0.40	0.20	0.14	mg/l	1	05/07/18 12:23	TG	SM4500NH3 H-11LACHAT
Solids, Total Dissolved	278	10	1.8	mg/l	1	05/03/18 16:01	RI	SM2540 C-11
Sulfate	16.9	2.0	0.53	mg/l	1	05/19/18 18:10	NV	EPA 300/SW846 9056A
Total Organic Carbon	3.9	1.0	0.60	mg/l	1	05/15/18 02:53	CD	SW846 9060A

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

RL = Reporting Limit
MDL = Method Detection Limit

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

4.3
4

Report of Analysis

Page 1 of 1

Client Sample ID:	1-SUF-009-001-03	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-3F	Date Received:	05/02/18
Matrix:	AQ - Groundwater Filtered	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Barium	0.127 J	0.20	0.0013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Beryllium	ND	0.0010	0.00040	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Boron	0.0726 J	0.10	0.013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Chromium	ND	0.010	0.00085	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Copper	ND	0.010	0.0032	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Iron	ND	0.10	0.032	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Lead	ND	0.0030	0.0026	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Manganese	0.302	0.015	0.00042	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Mercury	ND	0.00020	0.00013	mg/l	1	05/04/18	05/04/18	JA	SW846 7470A ¹ SW846 7470A ³
Nickel	0.0036 J	0.010	0.0013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Selenium	ND	0.010	0.0066	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Thallium	ND	0.0020	0.0016	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴

(1) Instrument QC Batch: MA44336

(2) Instrument QC Batch: MA44379

(3) Prep QC Batch: MP6973

(4) Prep QC Batch: MP7055

RL = Reporting Limit
MDL = Method Detection Limit

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

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-04	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-4	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A186929.D	1	05/04/18 10:19	VP	n/a	n/a	V2A7933
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform ^a	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	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 ^b	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	4.1	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

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	1-SUF-009-001-04	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-4	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-120%
17060-07-0	1,2-Dichloroethane-D4	103%		81-124%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	91%		80-120%

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

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

(b) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	1-SUF-009-001-04	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-4	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3P67825.D	1	05/17/18 18:23	JB	05/04/18 01:45	OP11756A	E3P3226
Run #2 ^b	3P67985.D	1	05/21/18 12:55	JB	05/19/18 05:00	OP12102A	E3P3232

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	910 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	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 ^c	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	ND	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	0.0603	0.10	0.049	ug/l	JB

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%	76%	29-124%
321-60-8	2-Fluorobiphenyl	65%	70%	23-122%
1718-51-0	Terphenyl-d14	79%	70%	22-130%

(a) Sample reextracted outside the holding time for confirmation.

(b) Confirmation run.

(c) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-04	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-4	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q46062.D	1	05/10/18 03:59	AFL	05/08/18 16:00	F:OP69978	F:SQ1132
Run #2 ^a	Q46178.D	1	05/11/18 18:08	AFL	05/08/18 16:00	F:OP69978	F:SQ1134

	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	3.32 ^b	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	2.62	4.0	1.0	ng/l	J
307-24-4	Perfluorohexanoic acid	2.78	4.0	1.0	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.65	2.0	1.0	ng/l	J
335-67-1	Perfluorooctanoic acid	7.22	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	1.0	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	1.90	2.0	1.0	ng/l	J
355-46-4	Perfluorohexanesulfonic acid	7.60	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	4.25 ^b	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	65%	58%	30-140%
	13C5-PFPeA	69%		40-140%
	13C5-PFHxA	78%		50-150%
	13C4-PFHpA	85%		50-150%
	13C8-PFOA	87%		50-150%
	13C9-PFNA	79%		50-150%
	13C6-PFDA	71%		50-150%
	13C7-PFUnDA	62%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1-SUF-009-001-04	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-4	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	62%		50-150%
	13C2-PFTeDA	65%		40-150%
	13C3-PFBS	72%		50-150%
	13C3-PFHxS	76%		50-150%
	13C8-PFOS	62%	58%	50-150%
	13C8-FOSA	39%		30-140%
	d3-MeFOSAA	75%		50-150%
	13C2-6:2FTS	95%		50-150%
	13C2-8:2FTS	78%		50-150%

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 1-SUF-009-001-04	Date Sampled: 05/01/18
Lab Sample ID: JC65355-4	Date Received: 05/02/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY	

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Barium	0.128 J	0.20	0.0013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00040	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Boron	0.0719 J	0.10	0.013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Chromium	ND	0.010	0.00085	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Copper	ND	0.010	0.0032	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Iron	ND	0.10	0.032	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Lead	ND	0.0030	0.0026	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Manganese	0.307	0.015	0.00042	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Mercury	ND	0.00020	0.00013	mg/l	1	05/04/18	05/04/18	JA SW846 7470A ¹	SW846 7470A ³
Nickel	0.0039 J	0.010	0.0013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Selenium	ND	0.010	0.0066	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Thallium	ND	0.0020	0.0016	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA44336

(2) Instrument QC Batch: MA44379

(3) Prep QC Batch: MP6973

(4) Prep QC Batch: MP7055

RL = Reporting Limit
MDL = Method Detection Limit

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

Report of Analysis

Client Sample ID:	1-SUF-009-001-04	Date Sampled:	05/01/18
Lab Sample ID:	JC65355-4	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 ^a	125	5.0	1.1	mg/l	1	05/07/18 11:58 CD	SM2320	B-11
Bromide	ND	0.50	0.060	mg/l	1	05/19/18 18:38 NV	EPA 300/SW846	9056A
Chemical Oxygen Demand	9.9 J	20	6.3	mg/l	1	05/09/18 09:22 MP	SM5220	C-11,HACH8000
Chloride	11.0	2.0	0.070	mg/l	1	05/19/18 18:38 NV	EPA 300/SW846	9056A
Hardness, Total as CaCO3	155	4.0	2.5	mg/l	1	05/07/18 17:46 ST	SM2340	C-11
Nitrogen, Ammonia	0.38	0.20	0.14	mg/l	1	05/07/18 12:24 TG	SM4500NH3	H-11LACHAT
Solids, Total Dissolved	291	10	1.8	mg/l	1	05/03/18 16:01 RI	SM2540	C-11
Sulfate	17.0	2.0	0.53	mg/l	1	05/19/18 18:38 NV	EPA 300/SW846	9056A
Total Organic Carbon	3.9	1.0	0.60	mg/l	1	05/15/18 04:02 CD	SW846	9060A

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

RL = Reporting Limit
MDL = Method Detection Limit

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

4.5
4

Report of Analysis

Page 1 of 1

Client Sample ID: 1-SUF-009-001-04	Date Sampled: 05/01/18
Lab Sample ID: JC65355-4F	Date Received: 05/02/18
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY	

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	ND	0.0030	0.0027	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Barium	0.127 J	0.20	0.0013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00040	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Boron	0.0706 J	0.10	0.013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Chromium	ND	0.010	0.00085	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Copper	ND	0.010	0.0032	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Iron	ND	0.10	0.032	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Lead	ND	0.0030	0.0026	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Manganese	0.298	0.015	0.00042	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Mercury	ND	0.00020	0.00013	mg/l	1	05/04/18	05/04/18	JA	SW846 7470A ¹	SW846 7470A ³
Nickel	0.0037 J	0.010	0.0013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Selenium	ND	0.010	0.0066	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Thallium	ND	0.0020	0.0016	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ²	SW846 3010A ⁴

(1) Instrument QC Batch: MA44336

(2) Instrument QC Batch: MA44379

(3) Prep QC Batch: MP6973

(4) Prep QC Batch: MP7055

RL = Reporting Limit
MDL = Method Detection Limit

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

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-05	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-5	Date Received:	05/02/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A186930.D	1	05/04/18 10:48	VP	n/a	n/a	V2A7933
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform ^a	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	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 ^b	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

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	1-SUF-009-001-05	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-5	Date Received:	05/02/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-120%
17060-07-0	1,2-Dichloroethane-D4	104%		81-124%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	93%		80-120%

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

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

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

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

Report of Analysis

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Client Sample ID:	1-SUF-009-001-06	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-6	Date Received:	05/02/18
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q46063.D	1	05/10/18 04:19	AFL	05/08/18 16:00	F:OP69978	F:SQ1132
Run #2 ^a	Q46342.D	1	05/16/18 13:39	AFL	05/14/18 09:00	F:OP70035	F:SQ1137

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	260 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid ^b	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.0	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 ^c	3.8	0.96	ng/l	
307-55-1	Perfluorododecanoic acid	ND ^c	3.8	0.96	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 ^c	1.9	1.4	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	83%		30-140%
	13C5-PFPeA	84%		40-140%
	13C5-PFHxA	87%		50-150%
	13C4-PFHpA	88%		50-150%
	13C8-PFOA	83%		50-150%
	13C9-PFNA	68%		50-150%
	13C6-PFDA	54%		50-150%
	13C7-PFUnDA		60%	50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	1-SUF-009-001-06	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-6	Date Received:	05/02/18
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
13C2-PFDoDA			62%	50-150%
13C2-PFTeDA		55%		40-150%
13C3-PFBS		85%		50-150%
13C3-PFHxS		76%		50-150%
13C8-PFOS			60%	50-150%
13C8-FOSA		60%		30-140%
d3-MeFOSAA		55%		50-150%
13C2-6:2FTS		81%		50-150%
13C2-8:2FTS		59%		50-150%

- (a) Analysis performed at SGS Orlando, FL.
 (b) Associated BS outside control limits high. Sample was ND.
 (c) Result is from Run# 2

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

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

Report of Analysis

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Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2A186931.D	1	05/04/18 11:17	VP	n/a	n/a	V2A7933
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform ^a	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	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 ^b	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

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-120%
17060-07-0	1,2-Dichloroethane-D4	106%		81-124%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	90%		80-120%

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

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

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3P67826.D	1	05/17/18 18:46	JB	05/04/18 01:45	OP11756A	E3P3226
Run #2 ^b	3P67986.D	1	05/21/18 13:18	JB	05/19/18 05:00	OP12102A	E3P3232

	Initial Volume	Final Volume
Run #1	1010 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	0.099	0.024	ug/l	
208-96-8	Acenaphthylene	ND	0.099	0.021	ug/l	
120-12-7	Anthracene	ND	0.099	0.019	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	0.099	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.099	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene ^c	ND	0.099	0.033	ug/l	
218-01-9	Chrysene	ND	0.099	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.099	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.099	0.022	ug/l	
86-73-7	Fluorene	ND	0.099	0.024	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.099	0.038	ug/l	
91-20-3	Naphthalene	ND	0.099	0.029	ug/l	
85-01-8	Phenanthrene	ND	0.099	0.023	ug/l	
129-00-0	Pyrene	ND	0.099	0.019	ug/l	
123-91-1	1,4-Dioxane	0.555	0.099	0.048	ug/l	B

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	59%	65%	29-124%
321-60-8	2-Fluorobiphenyl	60%	63%	23-122%
1718-51-0	Terphenyl-d14	67%	55%	22-130%

(a) Sample reextracted outside the holding time for confirmation.

(b) Confirmation run.

(c) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q46064.D	1	05/10/18 04:38	AFL	05/08/18 16:00	F:OP69978	F:SQ1132
Run #2 ^a	Q46179.D	1	05/11/18 18:28	AFL	05/08/18 16:00	F:OP69978	F:SQ1134

	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	2.14 ^b	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.64	4.0	1.0	ng/l	
307-24-4	Perfluorohexanoic acid	1.17	4.0	1.0	ng/l	J
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	1.0	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	1.88	2.0	1.0	ng/l	J
355-46-4	Perfluorohexanesulfonic acid	2.09	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid ^c	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	68%	61%	30-140%
	13C5-PFPeA	72%		40-140%
	13C5-PFHxA	81%		50-150%
	13C4-PFHpA	90%		50-150%
	13C8-PFOA	92%		50-150%
	13C9-PFNA	90%		50-150%
	13C6-PFDA	81%		50-150%
	13C7-PFUnDA	68%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	66%		50-150%
	13C2-PFTeDA	66%		40-150%
	13C3-PFBS	75%		50-150%
	13C3-PFHxS	84%		50-150%
	13C8-PFOS	70%	65%	50-150%
	13C8-FOSA	43%		30-140%
	d3-MeFOSAA	80%		50-150%
	13C2-6:2FTS	99%		50-150%
	13C2-8:2FTS	93%		50-150%

- (a) Analysis performed at SGS Orlando, FL.
- (b) Result is from Run# 2
- (c) Associated BS outside control limits high. Sample was ND.

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

Report of Analysis

Page 1 of 1

Client Sample ID: 1-SUF-009-001-07	Date Sampled: 05/02/18
Lab Sample ID: JC65355-7	Date Received: 05/02/18
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY	

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Barium	0.0645 J	0.20	0.0013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00040	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Boron	0.110	0.10	0.013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Chromium	ND	0.010	0.00085	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Copper	ND	0.010	0.0032	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Iron	4.35	0.10	0.032	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Lead	ND	0.0030	0.0026	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Manganese	1.01	0.015	0.00042	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Mercury	ND	0.00020	0.00013	mg/l	1	05/04/18	05/04/18	JA SW846 7470A ¹	SW846 7470A ³
Nickel	0.0020 J	0.010	0.0013	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Selenium	ND	0.010	0.0066	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Thallium	ND	0.0020	0.0016	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	05/10/18	05/10/18	ND SW846 6010C ²	SW846 3010A ⁴

- (1) Instrument QC Batch: MA44336
 (2) Instrument QC Batch: MA44379
 (3) Prep QC Batch: MP6973
 (4) Prep QC Batch: MP7055

RL = Reporting Limit
 MDL = Method Detection Limit

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

Report of Analysis

Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7	Date Received:	05/02/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 ^a	128	5.0	1.1	mg/l	1	05/07/18 11:58 CD	SM2320	B-11
Bromide	0.14 J	0.50	0.060	mg/l	1	05/19/18 19:06 NV	EPA 300/SW846	9056A
Chemical Oxygen Demand	14.8 J	20	6.3	mg/l	1	05/09/18 09:22 MP	SM5220	C-11,HACH8000
Chloride	27.7	4.0	0.14	mg/l	2	05/22/18 12:42 METEPA	300/SW846	9056A
Hardness, Total as CaCO3	167	4.0	2.5	mg/l	1	05/07/18 17:46 ST	SM2340	C-11
Nitrogen, Ammonia	1.5	0.20	0.14	mg/l	1	05/07/18 12:26 TG	SM4500NH3	H-11LACHAT
Solids, Total Dissolved	227	10	1.8	mg/l	1	05/03/18 16:01 RI	SM2540	C-11
Sulfate	66.2	10	2.7	mg/l	5	05/20/18 20:35 NV	EPA 300/SW846	9056A
Total Organic Carbon	3.2	1.0	0.60	mg/l	1	05/15/18 04:14 CD	SW846	9060A

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

RL = Reporting Limit
MDL = Method Detection Limit

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

Report of Analysis

Page 1 of 1

Client Sample ID:	1-SUF-009-001-07	Date Sampled:	05/02/18
Lab Sample ID:	JC65355-7F	Date Received:	05/02/18
Matrix:	AQ - Groundwater Filtered	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 1, Old North Sea Landfill, NY		

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analized By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Barium	0.0620 J	0.20	0.0013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Beryllium	ND	0.0010	0.00040	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Boron	0.107	0.10	0.013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Chromium	ND	0.010	0.00085	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Copper	ND	0.010	0.0032	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Iron	3.86	0.10	0.032	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Lead	ND	0.0030	0.0026	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Manganese	0.973	0.015	0.00042	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Mercury	ND	0.00020	0.00013	mg/l	1	05/04/18	05/04/18	JA	SW846 7470A ¹ SW846 7470A ³
Nickel	0.0021 J	0.010	0.0013	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Selenium	ND	0.010	0.0066	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Thallium	ND	0.0020	0.0016	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴
Zinc	ND	0.020	0.0040	mg/l	1	05/10/18	05/10/18	ND	SW846 6010C ² SW846 3010A ⁴

(1) Instrument QC Batch: MA44336

(2) Instrument QC Batch: MA44379

(3) Prep QC Batch: MP6973

(4) Prep QC Batch: MP7055

RL = Reporting Limit
MDL = Method Detection Limit

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

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

GW, EB, FB, WB

MJ-042018-170

CHAIN-OF-CUSTODY / Analytical Request Document

JC65355

Section A Laboratory Information				Section B Client Information				COC #:		1-SUF-009-001																			
Lab Name: SGS - Accutest				Company: Parsons				Project Name:		ILI - Region 1																			
Attention: Kristin DeGraw				Attention: Sara Weishaupt				Project Site:		Old North Sea LF																			
Address: Route 2235 Route 130; Dayton, NJ 08810				Address: 301 Plainfield Road, Suite 350 Syracuse, NY 13212				Project Number:		450619																			
Phone: 732-329-0200 x 1294				Phone: 315-552-9681																									
Email: Kristin.DeGraw@sgs.com				Email: Sara.Weishaupt@parsons.com																									
Section C Deliverable Requirements				Purchase Order No:																									
Report To: Sara.Weishaupt@parsons.com				TAT - 10 Day																									
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com				Section D Additional Information																									
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD																													
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	Preservative codes (for water only):																			
1 Field-QC-EB	-	-	1-SUF-009-001-01	5/1/18	1115	EB	WQ	QC	2																				
2 Field-QC-FB	-	-	1-SUF-009-001-02	5/1/18	1117	FB	WQ	QC	2																				
3 1-SUF-009-MW-01	42.5	42.5	1-SUF-009-001-03	5/1/18	1235	N	WG	GW	42	X	X																		
4 1-SUF-009-MW-01	42.5	42.5	1-SUF-009-001-04	5/1/18	1235	FD	WG	QC	14	X	X																		
5 Field-QC-TB	-	-	1-SUF-009-001-05	-	-	TB	WQ	QC	2																				
6 Field-QC-FB	-	-	1-SUF-009-001-06	5/2/18	1035	FB	WQ	QC	2																				
7 1-SUF-009-MW-02	47.5	47.5	1-SUF-009-001-07	5/2/18	1045	N	WG	GW	14	X	X																		
8			1-SUF- - -08																										
9			1-SUF- - -09																										
10			1-SUF- - -10																										
Special Instructions: Metals will have 2 bottles associated (Field Filtered and Unfiltered)																													
<table border="1"> <tr> <td>Samplers Name: Tom Horn</td> <td>Company: Parsons</td> <td>Relinquished By: Tom Horn</td> <td>Company: Parsons</td> <td>Cooler Temp.: Rec'd on Ice: Yes ☒ No ☐</td> <td>Custody Seals Intact: Yes ☒ No ☐</td> </tr> <tr> <td>Shipment Method: HAND DELIVERY</td> <td>Shipment Tracking No: 5-2-18/1700</td> <td>Accepted By: [Signature]</td> <td>Company: SGS</td> <td>Cooler Temp.: Rec'd on Ice: Yes ☐ No ☐</td> <td>Samples Intact: Yes ☒ No ☐</td> </tr> <tr> <td>Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; [8 = Other (H3PO4)]</td> <td>Date/Time: 5-2-18 (1200)</td> <td>Date/Time: 5-2-18 (1200)</td> <td>Date/Time: 5-2-18 (1200)</td> <td>Rec'd on Ice: Yes ☐ No ☐</td> <td>Samples Intact: Yes ☐ No ☐</td> </tr> </table>												Samplers Name: Tom Horn	Company: Parsons	Relinquished By: Tom Horn	Company: Parsons	Cooler Temp.: Rec'd on Ice: Yes ☒ No ☐	Custody Seals Intact: Yes ☒ No ☐	Shipment Method: HAND DELIVERY	Shipment Tracking No: 5-2-18/1700	Accepted By: [Signature]	Company: SGS	Cooler Temp.: Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☒ No ☐	Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; [8 = Other (H3PO4)]	Date/Time: 5-2-18 (1200)	Date/Time: 5-2-18 (1200)	Date/Time: 5-2-18 (1200)	Rec'd on Ice: Yes ☐ No ☐	Samples Intact: Yes ☐ No ☐
Samplers Name: Tom Horn	Company: Parsons	Relinquished By: Tom Horn	Company: Parsons	Cooler Temp.: Rec'd on Ice: Yes ☒ No ☐	Custody Seals Intact: Yes ☒ No ☐																								
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INITIAL ASSESSMENT

LABEL VERIFICATION

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE

C:\Users\p0008144\Desktop\ILI\BLANK_R1_R3 COC.xlsx

JC65355: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC65355

Client: PARSONS ENGINEERING SCIENCE

Project: PESNYL: ILI - REGION 1, OLD NORTH SEA LAN

Date / Time Received: 5/2/2018 5:00:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (4.2); Cooler 2: (3.8); Cooler 3: (4.4); Cooler 4: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (5.7); Cooler 2: (5.3); Cooler 3: (5.9); Cooler 4: (5.4);

Cooler Security
Y or N
Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | ☒ | ☐ | 3. COC Present: | ☒ | ☐ |
| 2. Custody Seals Intact: | ☒ | ☐ | 4. Smpl Dates/Time OK | ☒ | ☐ |

Cooler Temperature
Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | ☒ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 4 | |

Quality Control Preservation
Y or N
N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | ☒ | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☒ | ☐ | ☐ |
| 3. Samples preserved properly: | ☒ | ☐ | |
| 4. VOCs headspace free: | ☒ | ☐ | ☐ |

Sample Integrity - Documentation
Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | ☒ | ☐ |
| 2. Container labeling complete: | ☒ | ☐ |
| 3. Sample container label / COC agree: | ☒ | ☐ |

Sample Integrity - Condition
Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | ☒ | ☐ |
| 2. All containers accounted for: | ☒ | ☐ |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions
Y or N
N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | ☒ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☒ | |
| 3. Sufficient volume recvd for analysis: | ☒ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☒ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☒ |

Test Strip Lot #s:

Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC65355: Chain of Custody

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JC65355

5.1
5

Internal Sample Tracking Chronicle

Parsons Engineering Science for ILI

Job No: JC65355

PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Project No: 450619

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC65355-1	Collected: 01-MAY-18 11:15	By: TH	Received: 02-MAY-18	By: AS		
1-SUF-009-001-01						
JC65355-1	EPA 537M BY ID	10-MAY-18 02:20	AFL	08-MAY-18		LCID537NY21
JC65355-2	Collected: 01-MAY-18 11:17	By: TH	Received: 02-MAY-18	By: AS		
1-SUF-009-001-02						
JC65355-2	EPA 537M BY ID	10-MAY-18 02:40	AFL	08-MAY-18		LCID537NY21
JC65355-3	Collected: 01-MAY-18 12:35	By: TH	Received: 02-MAY-18	By: AS		
1-SUF-009-001-03						
JC65355-3	SM2540 C-11	03-MAY-18 16:01	RI			TDS
JC65355-3	SW846 8260C	04-MAY-18 09:50	VP			V8260SL+
JC65355-3	SW846 7470A	04-MAY-18 10:41	JA	04-MAY-18	JA	HG
JC65355-3	SM2320 B-11	07-MAY-18 11:58	CD			ALK
JC65355-3	SM4500NH3 H-11LACH	07-MAY-18 12:23	TG	07-MAY-18	TG	AMN
JC65355-3	SM2340 C-11	07-MAY-18 17:46	ST			HRD
JC65355-3	SM5220 C-11,HACH8000	09-MAY-18 09:22	MP	08-MAY-18	ST	COD
JC65355-3	EPA 537M BY ID	10-MAY-18 02:59	AFL	08-MAY-18		LCID537NY21
JC65355-3	SW846 6010C	10-MAY-18 17:20	ND	10-MAY-18	BP	ASNJ,B,BA,BE,CR,CU,FE,MN,NI,PB,SE,TLNJ,ZN
JC65355-3	EPA 537M BY ID	11-MAY-18 17:49	AFL	08-MAY-18		LCID537NY21
JC65355-3	SW846 9060A	15-MAY-18 02:53	CD	14-MAY-18	CD	TOCSW846
JC65355-3	SW846 8270D BY SIM	17-MAY-18 18:00	JB	04-MAY-18	JS	B8270SIMP
JC65355-3	EPA 300/SW846 9056A19	19-MAY-18 18:10	NV	19-MAY-18	NV	SO4
JC65355-4	Collected: 01-MAY-18 12:35	By: TH	Received: 02-MAY-18	By: AS		
1-SUF-009-001-04						
JC65355-4	SM2540 C-11	03-MAY-18 16:01	RI			TDS
JC65355-4	SW846 8260C	04-MAY-18 10:19	VP			V8260SL+
JC65355-4	SW846 7470A	04-MAY-18 10:46	JA	04-MAY-18	JA	HG
JC65355-4	SM2320 B-11	07-MAY-18 11:58	CD			ALK
JC65355-4	SM4500NH3 H-11LACH	07-MAY-18 12:24	TG	07-MAY-18	TG	AMN
JC65355-4	SM2340 C-11	07-MAY-18 17:46	ST			HRD
JC65355-4	SM5220 C-11,HACH8000	09-MAY-18 09:22	MP	08-MAY-18	ST	COD
JC65355-4	EPA 537M BY ID	10-MAY-18 03:59	AFL	08-MAY-18		LCID537NY21

Internal Sample Tracking Chronicle

Parsons Engineering Science for ILI

Job No: JC65355

PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Project No: 450619

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC65355-4	SW846 6010C	10-MAY-18 17:54	ND	10-MAY-18 BP		ASNJ,B,BA,BE,CR,CU,FE,MN,NI,PB,SE,TLNJ,ZN
JC65355-4	EPA 537M BY ID	11-MAY-18 18:08	AFL	08-MAY-18		LCID537NY21
JC65355-4	SW846 9060A	15-MAY-18 04:02	CD	14-MAY-18 CD		TOCSW846
JC65355-4	SW846 8270D BY SIM	17-MAY-18 18:23	JB	04-MAY-18 JS		B8270SIMPAH
JC65355-4	EPA 300/SW846 9056A19	19-MAY-18 18:38	NV	19-MAY-18 NV		BRO,CHL,SO4
JC65355-4	SW846 8270D BY SIM	21-MAY-18 12:55	JB	19-MAY-18 IM		B8270SIMPAH
JC65355-5 Collected: 02-MAY-18 10:45 By: TH Received: 02-MAY-18 By: AS 1-SUF-009-001-05						
JC65355-5	SW846 8260C	04-MAY-18 10:48	VP			V8260SL+
JC65355-6 Collected: 02-MAY-18 10:35 By: TH Received: 02-MAY-18 By: AS 1-SUF-009-001-06						
JC65355-6	EPA 537M BY ID	10-MAY-18 04:19	AFL	08-MAY-18		LCID537NY21
JC65355-6	EPA 537M BY ID	16-MAY-18 13:39	AFL	14-MAY-18		LCID537NY21
JC65355-7 Collected: 02-MAY-18 10:45 By: TH Received: 02-MAY-18 By: AS 1-SUF-009-001-07						
JC65355-7	SM2540 C-11	03-MAY-18 16:01	RI			TDS
JC65355-7	SW846 7470A	04-MAY-18 10:49	JA	04-MAY-18 JA		HG
JC65355-7	SW846 8260C	04-MAY-18 11:17	VP			V8260SL+
JC65355-7	SM2320 B-11	07-MAY-18 11:58	CD			ALK
JC65355-7	SM4500NH3 H-11LACHMAN	07-MAY-18 12:26	TG	07-MAY-18 TG		AMN
JC65355-7	SM2340 C-11	07-MAY-18 17:46	ST			HRD
JC65355-7	SM5220 C-11,HACH8000	08-MAY-18 09:22	MP	08-MAY-18 ST		COD
JC65355-7	EPA 537M BY ID	10-MAY-18 04:38	AFL	08-MAY-18		LCID537NY21
JC65355-7	SW846 6010C	10-MAY-18 17:58	ND	10-MAY-18 BP		ASNJ,B,BA,BE,CR,CU,FE,MN,NI,PB,SE,TLNJ,ZN
JC65355-7	EPA 537M BY ID	11-MAY-18 18:28	AFL	08-MAY-18		LCID537NY21
JC65355-7	SW846 9060A	15-MAY-18 04:14	CD	14-MAY-18 CD		TOCSW846
JC65355-7	SW846 8270D BY SIM	17-MAY-18 18:46	JB	04-MAY-18 JS		B8270SIMPAH
JC65355-7	EPA 300/SW846 9056A19	19-MAY-18 19:06	NV	19-MAY-18 NV		BRO
JC65355-7	EPA 300/SW846 9056A20	19-MAY-18 20:35	NV	19-MAY-18		
JC65355-7	SW846 8270D BY SIM	21-MAY-18 13:18	JB	19-MAY-18 IM		B8270SIMPAH
JC65355-7	EPA 300/SW846 9056A22	19-MAY-18 12:42	MET	19-MAY-18 NV		CHL

Internal Sample Tracking Chronicle

Parsons Engineering Science for ILI

Job No: JC65355

PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Project No: 450619

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
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JC65355-3F Collected: 01-MAY-18 12:35 By: TH Received: 02-MAY-18 By: AS
1-SUF-009-001-03

JC65355-3F SW846 7470A	04-MAY-18 10:42	JA	04-MAY-18 JA	HG
JC65355-3F SW846 6010C	10-MAY-18 17:45	ND	10-MAY-18 BP	ASNJ,B,BA,BE,CR,CU,FE,MN, NI,PB,SE,TLNJ,ZN

JC65355-4F Collected: 01-MAY-18 12:35 By: TH Received: 02-MAY-18 By: AS
1-SUF-009-001-04

JC65355-4F SW846 7470A	04-MAY-18 10:48	JA	04-MAY-18 JA	HG
JC65355-4F SW846 6010C	10-MAY-18 18:02	ND	10-MAY-18 BP	ASNJ,B,BA,BE,CR,CU,FE,MN, NI,PB,SE,TLNJ,ZN

JC65355-7F Collected: 02-MAY-18 10:45 By: TH Received: 02-MAY-18 By: AS
1-SUF-009-001-07

JC65355-7F SW846 7470A	04-MAY-18 10:50	JA	04-MAY-18 JA	HG
JC65355-7F SW846 6010C	10-MAY-18 18:07	ND	10-MAY-18 BP	ASNJ,B,BA,BE,CR,CU,FE,MN, NI,PB,SE,TLNJ,ZN

SGS Internal Chain of Custody

Page 1 of 10

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-1.1	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-1.1	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-1.2	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-1.2	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-2.1	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-2.1	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-2.2	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-2.2	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.1	Secured Storage	Dave Hunkele	05/03/18 09:00	Retrieve from Storage
JC65355-3.1	Dave Hunkele	Secured Staging Area	05/03/18 09:00	Return to Storage
JC65355-3.1	Secured Staging Area	Arielle Cocozza	05/04/18 00:55	Retrieve from Storage
JC65355-3.1	Arielle Cocozza		05/07/18 02:30	Depleted
JC65355-3.1.1	Arielle Cocozza	Organics Prep	05/04/18 00:55	Extract from JC65355-3.1
JC65355-3.1.1	Organics Prep	Jonathan Stanley	05/04/18 09:27	Extract from JC65355-3.1
JC65355-3.1.1	Jonathan Stanley	Extract Storage	05/04/18 09:27	Return to Storage
JC65355-3.2	Secured Storage	Dave Hunkele	05/03/18 09:00	Retrieve from Storage
JC65355-3.2	Dave Hunkele	Secured Staging Area	05/03/18 09:00	Return to Storage
JC65355-3.2	Secured Staging Area	Arielle Cocozza	05/04/18 00:55	Retrieve from Storage
JC65355-3.2	Arielle Cocozza		05/07/18 02:30	Depleted
JC65355-3.2.1	Arielle Cocozza	Organics Prep	05/04/18 00:55	Extract from JC65355-3.2
JC65355-3.2.1	Organics Prep	Jonathan Stanley	05/04/18 09:27	Extract from JC65355-3.2
JC65355-3.2.1	Jonathan Stanley	Extract Storage	05/04/18 09:27	Return to Storage
JC65355-3.3	Secured Storage	Dave Hunkele	05/03/18 09:00	Retrieve from Storage
JC65355-3.3	Dave Hunkele	Secured Staging Area	05/03/18 09:00	Return to Storage
JC65355-3.3	Secured Staging Area	Arielle Cocozza	05/04/18 00:55	Retrieve from Storage
JC65355-3.3	Arielle Cocozza		05/07/18 02:30	Depleted
JC65355-3.3.1	Arielle Cocozza	Organics Prep	05/04/18 00:55	Extract from JC65355-3.3
JC65355-3.3.1	Organics Prep	Jonathan Stanley	05/04/18 09:27	Extract from JC65355-3.3
JC65355-3.3.1	Jonathan Stanley	Extract Storage	05/04/18 09:27	Return to Storage
JC65355-3.7	Secured Storage	Luis Villanueva	05/09/18 19:41	Retrieve from Storage
JC65355-3.7	Luis Villanueva	Secured Staging Area	05/09/18 19:41	Return to Storage
JC65355-3.7	Secured Staging Area	Bhooma Patel	05/10/18 07:58	Retrieve from Storage
JC65355-3.7	Bhooma Patel	Secured Storage	05/10/18 10:51	Return to Storage

SGS Internal Chain of Custody

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Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-3.7.1	Bhooma Patel	Metals Digestion	05/10/18 10:41	Digestate from JC65355-3.7
JC65355-3.7.1	Metals Digestion	Bhooma Patel	05/10/18 10:41	Digestate from JC65355-3.7
JC65355-3.7.1	Bhooma Patel	Metals Digestate Storage	05/10/18 10:41	Return to Storage
JC65355-3.8	Secured Storage	Luis Villanueva	05/03/18 17:28	Retrieve from Storage
JC65355-3.8	Luis Villanueva	Secured Staging Area	05/03/18 17:28	Return to Storage
JC65355-3.8	Secured Staging Area	Jessica Adametz	05/04/18 08:00	Retrieve from Storage
JC65355-3.8	Jessica Adametz	Secured Storage	05/04/18 11:56	Return to Storage
JC65355-3.9	Secured Storage	Todd Shoemaker	05/07/18 09:41	Retrieve from Storage
JC65355-3.9	Todd Shoemaker	Secured Staging Area	05/07/18 09:41	Return to Storage
JC65355-3.9	Secured Staging Area	Sarvadaman Tripathi	05/07/18 11:24	Retrieve from Storage
JC65355-3.9	Sarvadaman Tripathi	Secured Storage	05/07/18 18:27	Return to Storage
JC65355-3.14	Secured Storage	Dwayne Johnson	05/08/18 12:22	Retrieve from Storage
JC65355-3.14	Dwayne Johnson	Secured Staging Area	05/08/18 12:22	Return to Storage
JC65355-3.14	Secured Staging Area	Sarvadaman Tripathi	05/08/18 15:33	Retrieve from Storage
JC65355-3.14	Sarvadaman Tripathi	Secured Storage	05/08/18 16:36	Return to Storage
JC65355-3.16	Secured Storage	Dwayne Johnson	05/17/18 09:33	Retrieve from Storage
JC65355-3.16	Dwayne Johnson	Secured Staging Area	05/17/18 09:33	Return to Storage
JC65355-3.16	Secured Staging Area	Natasha Verma	05/17/18 09:55	Retrieve from Storage
JC65355-3.16	Natasha Verma	Secured Storage	05/17/18 18:23	Return to Storage
JC65355-3.16	Secured Storage	Sahara Feliciano	05/17/18 20:23	Retrieve from Storage
JC65355-3.16	Sahara Feliciano	Secured Staging Area	05/17/18 20:23	Return to Storage
JC65355-3.16	Secured Staging Area	Natasha Verma	05/18/18 08:31	Retrieve from Storage
JC65355-3.16	Natasha Verma	Secured Storage	05/18/18 17:46	Return to Storage
JC65355-3.16	Secured Storage	Sahara Feliciano	05/20/18 11:01	Retrieve from Storage
JC65355-3.16	Sahara Feliciano	Secured Staging Area	05/20/18 11:01	Return to Storage
JC65355-3.16	Secured Staging Area	Natasha Verma	05/20/18 11:03	Retrieve from Storage
JC65355-3.16	Natasha Verma	Secured Storage	05/20/18 15:05	Return to Storage
JC65355-3.17	Secured Storage	Christopher Hall	05/03/18 08:07	Retrieve from Storage
JC65355-3.17	Christopher Hall	Secured Staging Area	05/03/18 08:07	Return to Storage
JC65355-3.17	Secured Staging Area	Rie Iwasaki	05/03/18 08:37	Retrieve from Storage
JC65355-3.17	Rie Iwasaki	Secured Storage	05/03/18 16:55	Return to Storage
JC65355-3.18	Secured Storage	Christopher Hall	05/03/18 08:07	Retrieve from Storage
JC65355-3.18	Christopher Hall	Secured Staging Area	05/03/18 08:07	Return to Storage
JC65355-3.18	Secured Staging Area	Rie Iwasaki	05/03/18 08:37	Retrieve from Storage
JC65355-3.18	Rie Iwasaki	Secured Storage	05/03/18 16:55	Return to Storage
JC65355-3.19	Secured Storage	Jennifer Voitovitch	05/06/18 09:37	Retrieve from Storage
JC65355-3.19	Jennifer Voitovitch	Secured Staging Area	05/06/18 09:37	Return to Storage

SGS Internal Chain of Custody

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-3.19	Secured Staging Area	Courtney Dringus	05/07/18 07:47	Retrieve from Storage
JC65355-3.19	Courtney Dringus	Secured Storage	05/07/18 14:16	Return to Storage
JC65355-3.21	Secured Storage	Sahara Feliciano	05/03/18 20:43	Retrieve from Storage
JC65355-3.21	Sahara Feliciano	Secured Staging Area	05/03/18 21:18	Return to Storage
JC65355-3.21	Secured Staging Area	Courtney Dringus	05/04/18 07:33	Retrieve from Storage
JC65355-3.21	Courtney Dringus	Secured Storage	05/04/18 15:11	Return to Storage
JC65355-3.24	Secured Storage	Todd Shoemaker	05/07/18 09:24	Retrieve from Storage
JC65355-3.24	Todd Shoemaker	Secured Staging Area	05/07/18 09:24	Return to Storage
JC65355-3.24	Secured Staging Area	Thomas Gabriel	05/07/18 10:57	Retrieve from Storage
JC65355-3.24	Thomas Gabriel	Secured Storage	05/07/18 12:25	Return to Storage
JC65355-3.26	Secured Storage	Jennifer Voitovitch	05/06/18 09:37	Retrieve from Storage
JC65355-3.26	Jennifer Voitovitch	Secured Staging Area	05/06/18 09:37	Return to Storage
JC65355-3.26	Secured Staging Area	Courtney Dringus	05/07/18 07:47	Retrieve from Storage
JC65355-3.26	Courtney Dringus	Secured Storage	05/07/18 14:16	Return to Storage
JC65355-3.26	Secured Storage	Jennifer Voitovitch	05/07/18 18:02	Retrieve from Storage
JC65355-3.26	Jennifer Voitovitch	Secured Staging Area	05/07/18 18:02	Return to Storage
JC65355-3.26	Secured Staging Area	Tim Hudson	05/09/18 08:20	Retrieve from Storage
JC65355-3.26	Tim Hudson	Secured Storage	05/09/18 08:22	Return to Storage
JC65355-3.26	Secured Staging Area	Sahara Feliciano	05/10/18 16:09	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC65355-3.26	Sahara Feliciano	Secured Staging Area	05/10/18 16:09	Return to Storage
JC65355-3.26	Secured Staging Area	Courtney Dringus	05/11/18 08:19	Retrieve from Storage
JC65355-3.26	Courtney Dringus	Secured Storage	05/11/18 12:52	Return to Storage
JC65355-3.26	Secured Storage	Sahara Feliciano	05/13/18 11:21	Retrieve from Storage
JC65355-3.26	Sahara Feliciano	Secured Staging Area	05/13/18 11:21	Return to Storage
JC65355-3.26	Secured Staging Area	Courtney Dringus	05/14/18 07:53	Retrieve from Storage
JC65355-3.26	Courtney Dringus	Secured Storage	05/14/18 14:49	Return to Storage
JC65355-3.28	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-3.28	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.29	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-3.29	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.30	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-3.30	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.31	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-3.31	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.32	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage

SGS Internal Chain of Custody

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Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-3.32	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.33	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-3.33	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-3.34	Secured Storage	Vidish Pandya	05/04/18 09:08	Retrieve from Storage
JC65355-3.34	Vidish Pandya	GCMS2A	05/04/18 09:08	Load on Instrument
JC65355-3.34	GCMS2A	Vidish Pandya	05/07/18 08:13	Unload from Instrument
JC65355-3.34	Vidish Pandya	Secured Storage	05/07/18 08:13	Return to Storage
JC65355-3.35	Secured Storage	Vidish Pandya	05/04/18 09:08	Retrieve from Storage
JC65355-3.35	Vidish Pandya	GCMS2A	05/04/18 09:08	Load on Instrument
JC65355-3.35	GCMS2A	Vidish Pandya	05/07/18 08:13	Unload from Instrument
JC65355-3.35	Vidish Pandya	Secured Storage	05/07/18 08:13	Return to Storage
JC65355-3.41	Secured Storage	Vidish Pandya	05/04/18 09:08	Retrieve from Storage
JC65355-3.41	Vidish Pandya	GCMS2A	05/04/18 09:08	Load on Instrument
JC65355-3.41	GCMS2A	Vidish Pandya	05/07/18 08:13	Unload from Instrument
JC65355-3.41	Vidish Pandya	Secured Storage	05/07/18 08:13	Return to Storage
JC65355-3F.10	Secured Storage	Luis Villanueva	05/03/18 17:28	Retrieve from Storage
JC65355-3F.10	Luis Villanueva	Secured Staging Area	05/03/18 17:28	Return to Storage
JC65355-3F.10	Secured Staging Area	Jessica Adametz	05/04/18 08:00	Retrieve from Storage
JC65355-3F.10	Jessica Adametz	Secured Storage	05/04/18 11:56	Return to Storage
JC65355-3F.10	Secured Storage	Luis Villanueva	05/09/18 19:41	Retrieve from Storage
JC65355-3F.10	Luis Villanueva	Secured Staging Area	05/09/18 19:41	Return to Storage
JC65355-3F.10	Secured Staging Area	Bhooma Patel	05/10/18 07:58	Retrieve from Storage
JC65355-3F.10	Bhooma Patel	Secured Storage	05/10/18 10:51	Return to Storage
JC65355-3F.10.1	Bhooma Patel	Metals Digestion	05/10/18 10:41	Digestate from JC65355-3F.10
JC65355-3F.10.1	Metals Digestion	Bhooma Patel	05/10/18 10:41	Digestate from JC65355-3F.10
JC65355-3F.10.1	Bhooma Patel	Metals Digestate Storage	05/10/18 10:41	Return to Storage
JC65355-4.1	Secured Storage	Vikas Parikh	05/19/18 07:45	Retrieve from Storage
JC65355-4.1	Vikas Parikh		05/22/18 10:32	Depleted
JC65355-4.1.1	Vikas Parikh	Organics Prep	05/19/18 07:46	Extract from JC65355-4.1
JC65355-4.1.1	Organics Prep	Ishmael Mansaray	05/19/18 16:40	Extract from JC65355-4.1
JC65355-4.1.1	Ishmael Mansaray	Extract Storage	05/19/18 16:40	Return to Storage
JC65355-4.1.1	Extract Storage	John Boudreau	05/21/18 09:52	Retrieve from Storage
JC65355-4.1.1	John Boudreau	GCMS3P	05/21/18 09:52	Load on Instrument
JC65355-4.1.1	GCMS3P	John Boudreau	05/22/18 11:28	Unload from Instrument
JC65355-4.1.1	John Boudreau	Extract Freezer	05/22/18 11:28	Return to Storage

SGS Internal Chain of Custody

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-4.1.2	Vikas Parikh	Organics Prep	05/21/18 06:26	Extract from JC65355-4.1
JC65355-4.2	Secured Storage	Dave Hunkele	05/03/18 09:00	Retrieve from Storage
JC65355-4.2	Dave Hunkele	Secured Staging Area	05/03/18 09:00	Return to Storage
JC65355-4.2	Secured Staging Area	Arielle Coccozza	05/04/18 00:55	Retrieve from Storage
JC65355-4.2	Arielle Coccozza		05/07/18 02:30	Depleted
JC65355-4.2.1	Arielle Coccozza	Organics Prep	05/04/18 00:55	Extract from JC65355-4.2
JC65355-4.2.1	Organics Prep	Jonathan Stanley	05/04/18 09:27	Extract from JC65355-4.2
JC65355-4.2.1	Jonathan Stanley	Extract Storage	05/04/18 09:27	Return to Storage
JC65355-4.3	Secured Storage	Luis Villanueva	05/03/18 17:28	Retrieve from Storage
JC65355-4.3	Luis Villanueva	Secured Staging Area	05/03/18 17:28	Return to Storage
JC65355-4.3	Secured Staging Area	Jessica Adametz	05/04/18 08:00	Retrieve from Storage
JC65355-4.3	Jessica Adametz	Secured Storage	05/04/18 11:56	Return to Storage
JC65355-4.3	Secured Storage	Todd Shoemaker	05/07/18 09:41	Retrieve from Storage
JC65355-4.3	Todd Shoemaker	Secured Staging Area	05/07/18 09:41	Return to Storage
JC65355-4.3	Secured Staging Area	Sarvadaman Tripathi	05/07/18 11:24	Retrieve from Storage
JC65355-4.3	Sarvadaman Tripathi	Secured Storage	05/07/18 18:27	Return to Storage
JC65355-4.3	Secured Storage	Luis Villanueva	05/09/18 19:41	Retrieve from Storage
JC65355-4.3	Luis Villanueva	Secured Staging Area	05/09/18 19:41	Return to Storage
JC65355-4.3	Secured Staging Area	Bhooma Patel	05/10/18 07:58	Retrieve from Storage
JC65355-4.3	Bhooma Patel	Secured Storage	05/10/18 10:51	Return to Storage
JC65355-4.3.1	Bhooma Patel	Metals Digestion	05/10/18 10:41	Digestate from JC65355-4.3
JC65355-4.3.1	Metals Digestion	Bhooma Patel	05/10/18 10:41	Digestate from JC65355-4.3
JC65355-4.3.1	Bhooma Patel	Metals Digestate Storage	05/10/18 10:41	Return to Storage
JC65355-4.5	Secured Storage	Dwayne Johnson	05/08/18 12:22	Retrieve from Storage
JC65355-4.5	Dwayne Johnson	Secured Staging Area	05/08/18 12:22	Return to Storage
JC65355-4.5	Secured Staging Area	Sarvadaman Tripathi	05/08/18 15:33	Retrieve from Storage
JC65355-4.5	Sarvadaman Tripathi	Secured Storage	05/08/18 16:36	Return to Storage
JC65355-4.6	Secured Storage	Sahara Feliciano	05/03/18 20:43	Retrieve from Storage
JC65355-4.6	Sahara Feliciano	Secured Staging Area	05/03/18 21:18	Return to Storage
JC65355-4.6	Secured Staging Area	Courtney Dringus	05/04/18 07:33	Retrieve from Storage
JC65355-4.6	Courtney Dringus	Secured Storage	05/04/18 15:11	Return to Storage
JC65355-4.7	Secured Storage	Christopher Hall	05/03/18 08:07	Retrieve from Storage
JC65355-4.7	Christopher Hall	Secured Staging Area	05/03/18 08:07	Return to Storage
JC65355-4.7	Secured Staging Area	Rie Iwasaki	05/03/18 08:37	Retrieve from Storage
JC65355-4.7	Rie Iwasaki	Secured Storage	05/03/18 16:55	Return to Storage
JC65355-4.7	Secured Storage	Jennifer Voitovitch	05/06/18 09:37	Retrieve from Storage
JC65355-4.7	Jennifer Voitovitch	Secured Staging Area	05/06/18 09:37	Return to Storage

SGS Internal Chain of Custody

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-4.7	Secured Staging Area	Courtney Dringus	05/07/18 07:47	Retrieve from Storage
JC65355-4.7	Courtney Dringus	Secured Storage	05/07/18 14:16	Return to Storage
JC65355-4.7	Secured Storage	Dwayne Johnson	05/17/18 09:33	Retrieve from Storage
JC65355-4.7	Dwayne Johnson	Secured Staging Area	05/17/18 09:33	Return to Storage
JC65355-4.7	Secured Staging Area	Natasha Verma	05/17/18 09:55	Retrieve from Storage
JC65355-4.7	Natasha Verma	Secured Storage	05/17/18 18:23	Return to Storage
JC65355-4.7	Secured Storage	Sahara Feliciano	05/17/18 20:23	Retrieve from Storage
JC65355-4.7	Sahara Feliciano	Secured Staging Area	05/17/18 20:23	Return to Storage
JC65355-4.7	Secured Staging Area	Natasha Verma	05/18/18 08:31	Retrieve from Storage
JC65355-4.7	Natasha Verma	Secured Storage	05/18/18 17:46	Return to Storage
JC65355-4.8	Secured Storage	Todd Shoemaker	05/07/18 09:24	Retrieve from Storage
JC65355-4.8	Todd Shoemaker	Secured Staging Area	05/07/18 09:24	Return to Storage
JC65355-4.8	Secured Staging Area	Thomas Gabriel	05/07/18 10:57	Retrieve from Storage
JC65355-4.8	Thomas Gabriel	Secured Storage	05/07/18 12:25	Return to Storage
JC65355-4.9	Secured Storage	Jennifer Voitovitch	05/06/18 09:37	Retrieve from Storage
JC65355-4.9	Jennifer Voitovitch	Secured Staging Area	05/06/18 09:37	Return to Storage
JC65355-4.9	Secured Staging Area	Courtney Dringus	05/07/18 07:47	Retrieve from Storage
JC65355-4.9	Courtney Dringus	Secured Storage	05/07/18 14:16	Return to Storage
JC65355-4.9	Secured Storage	Jennifer Voitovitch	05/07/18 18:02	Retrieve from Storage
JC65355-4.9	Jennifer Voitovitch	Secured Staging Area	05/07/18 18:02	Return to Storage
JC65355-4.9	Secured Staging Area	Tim Hudson	05/09/18 08:20	Retrieve from Storage
JC65355-4.9	Tim Hudson	Secured Storage	05/09/18 08:22	Return to Storage
JC65355-4.9	Secured Staging Area	Sahara Feliciano	05/10/18 16:09	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC65355-4.9	Sahara Feliciano	Secured Staging Area	05/10/18 16:09	Return to Storage
JC65355-4.9	Secured Staging Area	Courtney Dringus	05/11/18 08:19	Retrieve from Storage
JC65355-4.9	Courtney Dringus	Secured Storage	05/11/18 12:52	Return to Storage
JC65355-4.9	Secured Storage	Sahara Feliciano	05/13/18 11:21	Retrieve from Storage
JC65355-4.9	Sahara Feliciano	Secured Staging Area	05/13/18 11:21	Return to Storage
JC65355-4.9	Secured Staging Area	Courtney Dringus	05/14/18 07:53	Retrieve from Storage
JC65355-4.9	Courtney Dringus	Secured Storage	05/14/18 14:49	Return to Storage
JC65355-4.10	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-4.10	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-4.11	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-4.11	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-4.12	Secured Storage	Vidish Pandya	05/04/18 09:08	Retrieve from Storage
JC65355-4.12	Vidish Pandya	GCMS2A	05/04/18 09:08	Load on Instrument
JC65355-4.12	GCMS2A	Vidish Pandya	05/07/18 08:13	Unload from Instrument
JC65355-4.12	Vidish Pandya	Secured Storage	05/07/18 08:13	Return to Storage

SGS Internal Chain of Custody

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Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-4F.4	Secured Storage	Luis Villanueva	05/03/18 17:28	Retrieve from Storage
JC65355-4F.4	Luis Villanueva	Secured Staging Area	05/03/18 17:28	Return to Storage
JC65355-4F.4	Secured Staging Area	Jessica Adametz	05/04/18 08:00	Retrieve from Storage
JC65355-4F.4	Jessica Adametz	Secured Storage	05/04/18 11:56	Return to Storage
JC65355-4F.4	Secured Storage	Luis Villanueva	05/09/18 19:41	Retrieve from Storage
JC65355-4F.4	Luis Villanueva	Secured Staging Area	05/09/18 19:41	Return to Storage
JC65355-4F.4	Secured Staging Area	Bhooma Patel	05/10/18 07:58	Retrieve from Storage
JC65355-4F.4	Bhooma Patel	Secured Storage	05/10/18 10:51	Return to Storage
JC65355-4F.4.1	Bhooma Patel	Metals Digestion	05/10/18 10:41	Digestate from JC65355-4F.4
JC65355-4F.4.1	Metals Digestion	Bhooma Patel	05/10/18 10:41	Digestate from JC65355-4F.4
JC65355-4F.4.1	Bhooma Patel	Metals Digestate Storage	05/10/18 10:41	Return to Storage
JC65355-5.1	Secured Storage	Vidish Pandya	05/04/18 09:08	Retrieve from Storage
JC65355-5.1	Vidish Pandya	GCMS2A	05/04/18 09:08	Load on Instrument
JC65355-5.1	GCMS2A	Vidish Pandya	05/07/18 08:13	Unload from Instrument
JC65355-5.1	Vidish Pandya	Secured Storage	05/07/18 08:13	Return to Storage
JC65355-6.1	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-6.1	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-6.2	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-6.2	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-7.1	Secured Storage	Vikas Parikh	05/19/18 07:45	Retrieve from Storage
JC65355-7.1	Vikas Parikh		05/22/18 10:32	Depleted
JC65355-7.1.1	Vikas Parikh	Organics Prep	05/19/18 07:46	Extract from JC65355-7.1
JC65355-7.1.1	Organics Prep	Ishmael Mansaray	05/19/18 16:40	Extract from JC65355-7.1
JC65355-7.1.1	Ishmael Mansaray	Extract Storage	05/19/18 16:40	Return to Storage
JC65355-7.1.1	Extract Storage	John Boudreau	05/21/18 09:52	Retrieve from Storage
JC65355-7.1.1	John Boudreau	GCMS3P	05/21/18 09:52	Load on Instrument
JC65355-7.1.1	GCMS3P	John Boudreau	05/22/18 11:28	Unload from Instrument
JC65355-7.1.1	John Boudreau	Extract Freezer	05/22/18 11:28	Return to Storage
JC65355-7.1.2	Vikas Parikh	Organics Prep	05/21/18 06:26	Extract from JC65355-7.1
JC65355-7.2	Secured Storage	Dave Hunkele	05/03/18 09:00	Retrieve from Storage
JC65355-7.2	Dave Hunkele	Secured Staging Area	05/03/18 09:00	Return to Storage
JC65355-7.2	Secured Staging Area	Arielle Cocozza	05/04/18 00:55	Retrieve from Storage
JC65355-7.2	Arielle Cocozza		05/07/18 02:30	Depleted
JC65355-7.2.1	Arielle Cocozza	Organics Prep	05/04/18 00:55	Extract from JC65355-7.2

SGS Internal Chain of Custody

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Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-7.2.1	Organics Prep	Jonathan Stanley	05/04/18 09:27	Extract from JC65355-7.2
JC65355-7.2.1	Jonathan Stanley	Extract Storage	05/04/18 09:27	Return to Storage
JC65355-7.3	Secured Storage	Luis Villanueva	05/03/18 17:28	Retrieve from Storage
JC65355-7.3	Luis Villanueva	Secured Staging Area	05/03/18 17:28	Return to Storage
JC65355-7.3	Secured Staging Area	Jessica Adametz	05/04/18 08:00	Retrieve from Storage
JC65355-7.3	Jessica Adametz	Secured Storage	05/04/18 11:56	Return to Storage
JC65355-7.3	Secured Storage	Todd Shoemaker	05/07/18 09:41	Retrieve from Storage
JC65355-7.3	Todd Shoemaker	Secured Staging Area	05/07/18 09:41	Return to Storage
JC65355-7.3	Secured Staging Area	Sarvadaman Tripathi	05/07/18 11:24	Retrieve from Storage
JC65355-7.3	Sarvadaman Tripathi	Secured Storage	05/07/18 18:27	Return to Storage
JC65355-7.3	Secured Storage	Luis Villanueva	05/09/18 19:41	Retrieve from Storage
JC65355-7.3	Luis Villanueva	Secured Staging Area	05/09/18 19:41	Return to Storage
JC65355-7.3	Secured Staging Area	Bhooma Patel	05/10/18 07:58	Retrieve from Storage
JC65355-7.3	Bhooma Patel	Secured Storage	05/10/18 10:51	Return to Storage
JC65355-7.3.1	Bhooma Patel	Metals Digestion	05/10/18 10:41	Digestate from JC65355-7.3
JC65355-7.3.1	Metals Digestion	Bhooma Patel	05/10/18 10:41	Digestate from JC65355-7.3
JC65355-7.3.1	Bhooma Patel	Metals Digestate Storage	05/10/18 10:41	Return to Storage
JC65355-7.5	Secured Storage	Dwayne Johnson	05/08/18 12:22	Retrieve from Storage
JC65355-7.5	Dwayne Johnson	Secured Staging Area	05/08/18 12:22	Return to Storage
JC65355-7.5	Secured Staging Area	Sarvadaman Tripathi	05/08/18 15:33	Retrieve from Storage
JC65355-7.5	Sarvadaman Tripathi	Secured Storage	05/08/18 16:36	Return to Storage
JC65355-7.6	Secured Storage	Christopher Hall	05/03/18 08:07	Retrieve from Storage
JC65355-7.6	Christopher Hall	Secured Staging Area	05/03/18 08:07	Return to Storage
JC65355-7.6	Secured Staging Area	Rie Iwasaki	05/03/18 08:37	Retrieve from Storage
JC65355-7.6	Rie Iwasaki	Secured Storage	05/03/18 16:55	Return to Storage
JC65355-7.6	Secured Storage	Jennifer Voitovitch	05/06/18 09:37	Retrieve from Storage
JC65355-7.6	Jennifer Voitovitch	Secured Staging Area	05/06/18 09:37	Return to Storage
JC65355-7.6	Secured Staging Area	Courtney Dringus	05/07/18 07:47	Retrieve from Storage
JC65355-7.6	Courtney Dringus	Secured Storage	05/07/18 14:16	Return to Storage
JC65355-7.6	Secured Storage	Dwayne Johnson	05/17/18 09:33	Retrieve from Storage
JC65355-7.6	Dwayne Johnson	Secured Staging Area	05/17/18 09:33	Return to Storage
JC65355-7.6	Secured Staging Area	Natasha Verma	05/17/18 09:55	Retrieve from Storage
JC65355-7.6	Natasha Verma	Secured Storage	05/17/18 18:23	Return to Storage
JC65355-7.6	Secured Storage	Sahara Feliciano	05/17/18 20:23	Retrieve from Storage
JC65355-7.6	Sahara Feliciano	Secured Staging Area	05/17/18 20:23	Return to Storage
JC65355-7.6	Secured Staging Area	Natasha Verma	05/18/18 08:31	Retrieve from Storage
JC65355-7.6	Natasha Verma	Secured Storage	05/18/18 17:46	Return to Storage
JC65355-7.6	Secured Storage	Sahara Feliciano	05/20/18 11:01	Retrieve from Storage
JC65355-7.6	Sahara Feliciano	Secured Staging Area	05/20/18 11:01	Return to Storage
JC65355-7.6	Secured Staging Area	Natasha Verma	05/20/18 11:03	Retrieve from Storage

SGS Internal Chain of Custody

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-7.6	Natasha Verma	Secured Storage	05/20/18 15:05	Return to Storage
JC65355-7.7	Secured Storage	Sahara Feliciano	05/03/18 20:43	Retrieve from Storage
JC65355-7.7	Sahara Feliciano	Secured Staging Area	05/03/18 21:18	Return to Storage
JC65355-7.7	Secured Staging Area	Courtney Dringus	05/04/18 07:33	Retrieve from Storage
JC65355-7.7	Courtney Dringus	Secured Storage	05/04/18 15:11	Return to Storage
JC65355-7.7	Secured Storage	Sahara Feliciano	05/20/18 15:43	Retrieve from Storage
JC65355-7.7	Sahara Feliciano	Secured Staging Area	05/20/18 15:43	Return to Storage
JC65355-7.7	Secured Staging Area	Karthika Sathayamoorthy	05/21/18 08:24	Retrieve from Storage
JC65355-7.7	Karthika Sathayamoorthy	Secured Storage	05/21/18 17:17	Return to Storage
JC65355-7.8	Secured Storage	Todd Shoemaker	05/07/18 09:24	Retrieve from Storage
JC65355-7.8	Todd Shoemaker	Secured Staging Area	05/07/18 09:24	Return to Storage
JC65355-7.8	Secured Staging Area	Thomas Gabriel	05/07/18 10:57	Retrieve from Storage
JC65355-7.8	Thomas Gabriel	Secured Storage	05/07/18 12:25	Return to Storage
JC65355-7.9	Secured Storage	Jennifer Voitovitch	05/06/18 09:37	Retrieve from Storage
JC65355-7.9	Jennifer Voitovitch	Secured Staging Area	05/06/18 09:37	Return to Storage
JC65355-7.9	Secured Staging Area	Courtney Dringus	05/07/18 07:47	Retrieve from Storage
JC65355-7.9	Courtney Dringus	Secured Storage	05/07/18 14:16	Return to Storage
JC65355-7.9	Secured Storage	Jennifer Voitovitch	05/07/18 18:02	Retrieve from Storage
JC65355-7.9	Jennifer Voitovitch	Secured Staging Area	05/07/18 18:02	Return to Storage
JC65355-7.9	Secured Staging Area	Tim Hudson	05/09/18 08:20	Retrieve from Storage
JC65355-7.9	Tim Hudson	Secured Storage	05/09/18 08:22	Return to Storage
JC65355-7.9	Secured Staging Area	Sahara Feliciano	05/10/18 16:09	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC65355-7.9	Sahara Feliciano	Secured Staging Area	05/10/18 16:09	Return to Storage
JC65355-7.9	Secured Staging Area	Courtney Dringus	05/11/18 08:19	Retrieve from Storage
JC65355-7.9	Courtney Dringus	Secured Storage	05/11/18 12:52	Return to Storage
JC65355-7.9	Secured Storage	Sahara Feliciano	05/13/18 11:21	Retrieve from Storage
JC65355-7.9	Sahara Feliciano	Secured Staging Area	05/13/18 11:21	Return to Storage
JC65355-7.9	Secured Staging Area	Courtney Dringus	05/14/18 07:53	Retrieve from Storage
JC65355-7.9	Courtney Dringus	Secured Storage	05/14/18 14:49	Return to Storage
JC65355-7.10	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-7.10	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-7.11	Secured Storage	Robert Lofrano	05/04/18 06:48	Retrieve from Storage
JC65355-7.11	Robert Lofrano		05/04/18 14:24	Subcontract
JC65355-7.12	Secured Storage	Vidish Pandya	05/04/18 09:08	Retrieve from Storage
JC65355-7.12	Vidish Pandya	GCMS2A	05/04/18 09:08	Load on Instrument
JC65355-7.12	GCMS2A	Vidish Pandya	05/07/18 08:13	Unload from Instrument
JC65355-7.12	Vidish Pandya	Secured Storage	05/07/18 08:13	Return to Storage

SGS Internal Chain of Custody

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Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Received: 05/02/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC65355-7F.4	Secured Storage	Luis Villanueva	05/03/18 17:28	Retrieve from Storage
JC65355-7F.4	Luis Villanueva	Secured Staging Area	05/03/18 17:28	Return to Storage
JC65355-7F.4	Secured Staging Area	Jessica Adametz	05/04/18 08:00	Retrieve from Storage
JC65355-7F.4	Jessica Adametz	Secured Storage	05/04/18 11:56	Return to Storage
JC65355-7F.4	Secured Storage	Luis Villanueva	05/09/18 19:41	Retrieve from Storage
JC65355-7F.4	Luis Villanueva	Secured Staging Area	05/09/18 19:41	Return to Storage
JC65355-7F.4	Secured Staging Area	Bhooma Patel	05/10/18 07:58	Retrieve from Storage
JC65355-7F.4	Bhooma Patel	Secured Storage	05/10/18 10:51	Return to Storage
JC65355-7F.4.1	Bhooma Patel	Metals Digestion	05/10/18 10:41	Digestate from JC65355-7F.4
JC65355-7F.4.1	Metals Digestion	Bhooma Patel	05/10/18 10:41	Digestate from JC65355-7F.4
JC65355-7F.4.1	Bhooma Patel	Metals Digestate Storage	05/10/18 10:41	Return to Storage

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Page 1 of 2

Job Number: JC65355**Account:** ILINY Parsons Engineering Science for ILI**Project:** PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7933-MB	2A186927.D	1	05/04/18	VP	n/a	n/a	V2A7933

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC65355-3, JC65355-4, JC65355-5, JC65355-7

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	
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	

Method Blank Summary

Page 2 of 2

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7933-MB	2A186927.D	1	05/04/18	VP	n/a	n/a	V2A7933

The QC reported here applies to the following samples:

Method: SW846 8260C

JC65355-3, JC65355-4, JC65355-5, JC65355-7

CAS No.	Compound	Result	RL	MDL	Units	Q
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	Limits
1868-53-7	Dibromofluoromethane	95% 80-120%
17060-07-0	1,2-Dichloroethane-D4	102% 81-124%
2037-26-5	Toluene-D8	96% 80-120%
460-00-4	4-Bromofluorobenzene	92% 80-120%

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

Blank Spike Summary

Page 1 of 2

Job Number: JC65355**Account:** ILINY Parsons Engineering Science for ILI**Project:** PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7933-BS	2A186925.D	1	05/04/18	VP	n/a	n/a	V2A7933

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC65355-3, JC65355-4, JC65355-5, JC65355-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	200	184	92	42-150
107-13-1	Acrylonitrile	50	45.5	91	70-135
71-43-2	Benzene	50	48.7	97	80-120
74-97-5	Bromochloromethane	50	52.8	106	84-121
75-27-4	Bromodichloromethane	50	54.1	108	83-120
75-25-2	Bromoform	50	62.6	125	76-129
74-83-9	Bromomethane	50	43.8	88	57-138
78-93-3	2-Butanone (MEK)	200	201	101	64-137
75-15-0	Carbon disulfide	50	46.7	93	64-137
56-23-5	Carbon tetrachloride	50	54.6	109	75-135
108-90-7	Chlorobenzene	50	50.6	101	84-117
75-00-3	Chloroethane	50	40.0	80	63-132
67-66-3	Chloroform	50	48.2	96	80-119
74-87-3	Chloromethane	50	40.3	81	46-136
96-12-8	1,2-Dibromo-3-chloropropane	50	59.7	119	72-127
124-48-1	Dibromochloromethane	50	57.8	116	80-123
106-93-4	1,2-Dibromoethane	50	51.6	103	84-117
95-50-1	1,2-Dichlorobenzene	50	51.8	104	84-119
106-46-7	1,4-Dichlorobenzene	50	50.5	101	82-117
110-57-6	trans-1,4-Dichloro-2-Butene	50	49.7	99	32-148
75-34-3	1,1-Dichloroethane	50	47.5	95	79-120
107-06-2	1,2-Dichloroethane	50	51.3	103	78-126
75-35-4	1,1-Dichloroethene	50	48.6	97	69-126
156-59-2	cis-1,2-Dichloroethene	50	47.4	95	80-120
156-60-5	trans-1,2-Dichloroethene	50	48.2	96	76-120
78-87-5	1,2-Dichloropropane	50	49.4	99	82-121
10061-01-5	cis-1,3-Dichloropropene	50	52.0	104	83-120
10061-02-6	trans-1,3-Dichloropropene	50	50.1	100	82-121
100-41-4	Ethylbenzene	50	49.7	99	80-120
591-78-6	2-Hexanone	200	195	98	65-132
74-88-4	Iodomethane	50	52.9	106	72-128
108-10-1	4-Methyl-2-pentanone(MIBK)	200	191	96	71-131
74-95-3	Methylene bromide	50	53.8	108	85-120
75-09-2	Methylene chloride	50	45.0	90	77-120
100-42-5	Styrene	50	50.9	102	82-122
630-20-6	1,1,1,2-Tetrachloroethane	50	55.8	112	82-121

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7933-BS	2A186925.D	1	05/04/18	VP	n/a	n/a	V2A7933

The QC reported here applies to the following samples:

Method: SW846 8260C

JC65355-3, JC65355-4, JC65355-5, JC65355-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
79-34-5	1,1,2,2-Tetrachloroethane	50	45.2	90	76-119
127-18-4	Tetrachloroethene	50	55.7	111	70-131
108-88-3	Toluene	50	48.1	96	80-120
71-55-6	1,1,1-Trichloroethane	50	52.0	104	81-128
79-00-5	1,1,2-Trichloroethane	50	48.9	98	83-118
79-01-6	Trichloroethene	50	51.9	104	80-120
75-69-4	Trichlorofluoromethane	50	46.7	93	64-136
96-18-4	1,2,3-Trichloropropane	50	47.6	95	79-120
108-05-4	Vinyl Acetate	50	44.0	88	76-132
75-01-4	Vinyl chloride	50	41.5	83	51-135
	m,p-Xylene	100	102	102	80-120
95-47-6	o-Xylene	50	49.5	99	80-120
1330-20-7	Xylene (total)	150	151	101	80-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	80-120%
17060-07-0	1,2-Dichloroethane-D4	104%	81-124%
2037-26-5	Toluene-D8	95%	80-120%
460-00-4	4-Bromofluorobenzene	90%	80-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC65355-3MS	2A186932.D	1	05/04/18	VP	n/a	n/a	V2A7933
JC65355-3MSD	2A186933.D	1	05/04/18	VP	n/a	n/a	V2A7933
JC65355-3	2A186928.D	1	05/04/18	VP	n/a	n/a	V2A7933

The QC reported here applies to the following samples:

Method: SW846 8260C

JC65355-3, JC65355-4, JC65355-5, JC65355-7

CAS No.	Compound	JC65355-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	200	168	84	200	151	76	11	34-149/17
107-13-1	Acrylonitrile	ND	50	43.1	86	50	40.7	81	6	62-138/13
71-43-2	Benzene	ND	50	46.3	93	50	45.1	90	3	54-136/10
74-97-5	Bromochloromethane	ND	50	48.9	98	50	46.1	92	6	79-124/11
75-27-4	Bromodichloromethane	ND	50	51.8	104	50	48.3	97	7	79-124/11
75-25-2	Bromoform	ND	50	56.5	113	50	55.1	110	3	71-130/11
74-83-9	Bromomethane	ND	50	46.1	92	50	44.4	89	4	53-142/14
78-93-3	2-Butanone (MEK)	ND	200	180	90	200	170	85	6	54-142/15
75-15-0	Carbon disulfide	ND	50	46.9	94	50	44.3	89	6	59-145/17
56-23-5	Carbon tetrachloride	ND	50	57.1	114	50	52.7	105	8	70-143/12
108-90-7	Chlorobenzene	ND	50	48.1	96	50	45.9	92	5	78-123/10
75-00-3	Chloroethane	ND	50	43.2	86	50	40.9	82	5	57-141/14
67-66-3	Chloroform	ND	50	45.9	92	50	43.4	87	6	76-123/11
74-87-3	Chloromethane	ND	50	44.7	89	50	44.6	89	0	43-141/16
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	52.9	106	50	52.4	105	1	66-130/13
124-48-1	Dibromochloromethane	ND	50	53.5	107	50	50.7	101	5	76-125/11
106-93-4	1,2-Dibromoethane	ND	50	47.3	95	50	45.3	91	4	78-119/11
95-50-1	1,2-Dichlorobenzene	ND	50	48.4	97	50	46.5	93	4	77-123/11
106-46-7	1,4-Dichlorobenzene	5.4	50	51.7	93	50	49.8	89	4	76-122/11
110-57-6	trans-1,4-Dichloro-2-Butene	ND	50	40.5	81	50	35.6	71	13	17-148/28
75-34-3	1,1-Dichloroethane	ND	50	45.6	91	50	43.0	86	6	73-126/11
107-06-2	1,2-Dichloroethane	ND	50	49.3	99	50	46.2	92	6	72-131/11
75-35-4	1,1-Dichloroethene	ND	50	48.4	97	50	46.0	92	5	63-136/14
156-59-2	cis-1,2-Dichloroethene	ND	50	44.6	89	50	42.3	85	5	60-136/11
156-60-5	trans-1,2-Dichloroethene	ND	50	46.4	93	50	44.3	89	5	70-126/11
78-87-5	1,2-Dichloropropane	ND	50	46.9	94	50	44.4	89	5	78-124/10
10061-01-5	cis-1,3-Dichloropropene	ND	50	49.3	99	50	46.8	94	5	79-123/11
10061-02-6	trans-1,3-Dichloropropene	ND	50	47.1	94	50	44.5	89	6	77-123/11
100-41-4	Ethylbenzene	ND	50	48.0	96	50	45.4	91	6	51-140/20
591-78-6	2-Hexanone	ND	200	183	92	200	173	87	6	56-139/14
74-88-4	Iodomethane	ND	50	51.1	102	50	48.2	96	6	67-132/14
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	200	178	89	200	170	85	5	66-136/13
74-95-3	Methylene bromide	ND	50	50.0	100	50	47.3	95	6	81-121/11
75-09-2	Methylene chloride	ND	50	41.5	83	50	39.8	80	4	73-125/13
100-42-5	Styrene	ND	50	48.4	97	50	44.9	90	8	75-129/11
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	53.3	107	50	50.2	100	6	77-124/11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC65355-3MS	2A186932.D	1	05/04/18	VP	n/a	n/a	V2A7933
JC65355-3MSD	2A186933.D	1	05/04/18	VP	n/a	n/a	V2A7933
JC65355-3	2A186928.D	1	05/04/18	VP	n/a	n/a	V2A7933

The QC reported here applies to the following samples:

Method: SW846 8260C

JC65355-3, JC65355-4, JC65355-5, JC65355-7

CAS No.	Compound	JC65355-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	41.3	83	50	41.0	82	1	71-122/11
127-18-4	Tetrachloroethene	ND	50	55.1	110	50	53.3	107	3	61-139/11
108-88-3	Toluene	ND	50	46.2	92	50	44.7	89	3	60-135/10
71-55-6	1,1,1-Trichloroethane	ND	50	52.1	104	50	48.1	96	8	74-138/12
79-00-5	1,1,2-Trichloroethane	ND	50	44.9	90	50	43.4	87	3	78-121/11
79-01-6	Trichloroethene	ND	50	51.0	102	50	50.0	100	2	62-141/10
75-69-4	Trichlorofluoromethane	ND	50	57.4	115	50	53.4	107	7	57-149/14
96-18-4	1,2,3-Trichloropropane	ND	50	45.0	90	50	43.0	86	5	74-122/11
108-05-4	Vinyl Acetate	ND	50	39.9	80	50	36.5	73	9	63-135/16
75-01-4	Vinyl chloride	ND	50	47.6	95	50	47.1	94	1	43-146/15
	m,p-Xylene	ND	100	98.6	99	100	93.4	93	5	50-144/20
95-47-6	o-Xylene	ND	50	47.7	95	50	45.2	90	5	63-134/10
1330-20-7	Xylene (total)	ND	150	146	97	150	139	93	5	56-139/20

CAS No.	Surrogate Recoveries	MS	MSD	JC65355-3	Limits
1868-53-7	Dibromofluoromethane	96%	95%	94%	80-120%
17060-07-0	1,2-Dichloroethane-D4	107%	105%	102%	81-124%
2037-26-5	Toluene-D8	96%	95%	96%	80-120%
460-00-4	4-Bromofluorobenzene	89%	90%	87%	80-120%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC65355**Account:** ILINY Parsons Engineering Science for ILI**Project:** PESNYL: ILI - Region 1, Old North Sea Landfill, NY**Sample:** V2A7918-BFB**Injection Date:** 04/20/18**Lab File ID:** 2A186732.D**Injection Time:** 16:06**Instrument ID:** GCMS2A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	13654	16.3	Pass
75	30.0 - 60.0% of mass 95	37989	45.4	Pass
95	Base peak, 100% relative abundance	83669	100.0	Pass
96	5.0 - 9.0% of mass 95	6088	7.28	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	73152	87.4	Pass
175	5.0 - 9.0% of mass 174	5556	6.64 (7.60) ^a	Pass
176	95.0 - 101.0% of mass 174	70922	84.8 (97.0) ^a	Pass
177	5.0 - 9.0% of mass 176	4574	5.47 (6.45) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2A7918-IC7918	2A186733.D	04/20/18	16:57	00:51	Initial cal 0.5
V2A7918-IC7918	2A186734.D	04/20/18	17:26	01:20	Initial cal 1
V2A7918-IC7918	2A186735.D	04/20/18	17:54	01:48	Initial cal 2
V2A7918-IC7918	2A186736.D	04/20/18	18:23	02:17	Initial cal 5
V2A7918-IC7918	2A186737.D	04/20/18	18:52	02:46	Initial cal 10
V2A7918-IC7918	2A186738.D	04/20/18	19:21	03:15	Initial cal 20
V2A7918-ICC7918	2A186739.D	04/20/18	19:49	03:43	Initial cal 50
V2A7918-IC7918	2A186740.D	04/20/18	20:18	04:12	Initial cal 100
V2A7918-IC7918	2A186741.D	04/20/18	20:47	04:41	Initial cal 200
V2A7918-ICV7918	2A186744.D	04/20/18	22:12	06:06	Initial cal verification 50
V2A7918-ICV7918	2A186745.D	04/20/18	22:41	06:35	Initial cal verification 50

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: V2A7933-BFB

Injection Date: 05/04/18

Lab File ID: 2A186923.D

Injection Time: 06:46

Instrument ID: GCMS2A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	15386	17.5	Pass
75	30.0 - 60.0% of mass 95	40933	46.6	Pass
95	Base peak, 100% relative abundance	87800	100.0	Pass
96	5.0 - 9.0% of mass 95	6189	7.05	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	86061	98.0	Pass
175	5.0 - 9.0% of mass 174	7185	8.18 (8.35) ^a	Pass
176	95.0 - 101.0% of mass 174	86171	98.1 (100.1) ^a	Pass
177	5.0 - 9.0% of mass 176	5969	6.80 (6.93) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2A7933-CC7918	2A186923.D	05/04/18	06:46	00:00	Continuing cal 20
V2A7933-BS	2A186925.D	05/04/18	08:15	01:29	Blank Spike
V2A7933-MB	2A186927.D	05/04/18	09:13	02:27	Method Blank
JC65355-3	2A186928.D	05/04/18	09:50	03:04	1-SUF-009-001-03
JC65355-4	2A186929.D	05/04/18	10:19	03:33	1-SUF-009-001-04
JC65355-5	2A186930.D	05/04/18	10:48	04:02	1-SUF-009-001-05
JC65355-7	2A186931.D	05/04/18	11:17	04:31	1-SUF-009-001-07
JC65355-3MS	2A186932.D	05/04/18	11:46	05:00	Matrix Spike
JC65355-3MSD	2A186933.D	05/04/18	12:15	05:29	Matrix Spike Duplicate
ZZZZZZ	2A186935.D	05/04/18	13:13	06:27	(unrelated sample)
ZZZZZZ	2A186936.D	05/04/18	13:43	06:57	(unrelated sample)
ZZZZZZ	2A186937.D	05/04/18	14:12	07:26	(unrelated sample)
ZZZZZZ	2A186938.D	05/04/18	14:41	07:55	(unrelated sample)
ZZZZZZ	2A186939.D	05/04/18	15:10	08:24	(unrelated sample)
ZZZZZZ	2A186940.D	05/04/18	15:39	08:53	(unrelated sample)
ZZZZZZ	2A186941.D	05/04/18	16:08	09:22	(unrelated sample)
ZZZZZZ	2A186942.D	05/04/18	16:37	09:51	(unrelated sample)
ZZZZZZ	2A186943.D	05/04/18	17:07	10:21	(unrelated sample)
ZZZZZZ	2A186944.D	05/04/18	17:36	10:50	(unrelated sample)
ZZZZZZ	2A186946.D	05/04/18	18:34	11:48	(unrelated sample)
ZZZZZZ	2A186947.D	05/04/18	19:03	12:17	(unrelated sample)

Internal Standard Area Summary

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Check Std: V2A7933-CC7918

Injection Date: 05/04/18

Lab File ID: 2A186923.D

Injection Time: 06:46

Instrument ID: GCMS2A

Method: SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	77372	7.22	285610	9.46	385297	10.38	328686	13.53	190653	15.83
Upper Limit ^a	154744	7.72	571220	9.96	770594	10.88	657372	14.03	381306	16.33
Lower Limit ^b	38686	6.72	142805	8.96	192649	9.88	164343	13.03	95327	15.33

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V2A7933-BS	73261	7.22	288534	9.46	391321	10.38	337111	13.53	198542	15.83
V2A7933-MB	77004	7.22	292337	9.46	392388	10.38	334460	13.53	194720	15.83
JC65355-3	56926	7.22	236384	9.47	310551	10.38	263988	13.53	157471	15.84
JC65355-4	71407	7.22	292144	9.46	383833	10.38	333660	13.53	190726	15.83
JC65355-5	71215	7.22	282461	9.46	377903	10.38	323019	13.53	184679	15.83
JC65355-7	73819	7.22	278911	9.46	366975	10.38	318909	13.53	185023	15.83
JC65355-3MS	74102	7.23	269520	9.46	359316	10.38	312073	13.53	185188	15.83
JC65355-3MSD	75758	7.23	287323	9.46	378618	10.38	331650	13.53	191930	15.83
ZZZZZZ	73125	7.22	283360	9.46	377985	10.38	331313	13.53	189396	15.83
ZZZZZZ	77304	7.22	279552	9.46	367931	10.38	323731	13.53	187541	15.83
ZZZZZZ	79080	7.23	300815	9.46	404416	10.38	352905	13.53	199980	15.83
ZZZZZZ	81057	7.22	291045	9.46	388010	10.38	342242	13.53	193593	15.83
ZZZZZZ	79251	7.22	284574	9.46	378852	10.38	329219	13.53	193248	15.83
ZZZZZZ	75020	7.23	279224	9.47	368899	10.38	321683	13.53	185263	15.83
ZZZZZZ	74893	7.23	275243	9.46	366483	10.38	323269	13.53	185113	15.83
ZZZZZZ	74094	7.22	272437	9.46	366710	10.38	320733	13.53	181759	15.83
ZZZZZZ	75388	7.22	276177	9.46	369746	10.38	318045	13.53	185024	15.83
ZZZZZZ	80864	7.23	305360	9.46	406916	10.38	350472	13.53	198990	15.83
ZZZZZZ	75878	7.22	282061	9.46	375047	10.38	330661	13.53	187263	15.83
ZZZZZZ	71325	7.22	275083	9.46	361595	10.38	315968	13.53	182750	15.83

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Surrogate Recovery Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Method: SW846 8260C	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC65355-3	2A186928.D	94	102	96	87
JC65355-4	2A186929.D	96	103	94	91
JC65355-5	2A186930.D	96	104	95	93
JC65355-7	2A186931.D	96	106	95	90
JC65355-3MS	2A186932.D	96	107	96	89
JC65355-3MSD	2A186933.D	95	105	95	90
V2A7933-BS	2A186925.D	95	104	95	90
V2A7933-MB	2A186927.D	95	102	96	92

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-120%
S2 = 1,2-Dichloroethane-D4	81-124%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Initial Calibration Summary

Page 1 of 5

Job Number: JC65355

Sample: V2A7918-ICC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186739.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Response Factor Report Instrumen

Method : C:\MSDCHEM\1\METHODS\M2A7918.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Apr 24 14:56:35 2018
Response via : Initial Calibration

Calibration Files

5 =2A186736.D 10 =2A186737.D 0.5 =2A186733.D 50 =2A186739.D
100 =2A186740.D 1 =2A186734.D 200 =2A186741.D 20 =2A186738.D
2 =2A186735.D =

Compound	5	10	0.5	50	100	1	200	20	2	Avg	%RSD
1) I Tert Butyl Alcohol-d9 -----ISTD-----											
2) ethanol											
	0.100	0.092		0.086	0.085	0.082	0.087	0.086	0.094	0.089	6.52
3) tertiary butyl alcohol											
	1.248	1.391		1.363	1.434		1.403	1.377	1.278	1.356	5.01
4) 1,4-dioxane											
	0.060	0.081		0.081	0.085		0.088	0.082		0.080	12.73
5) I pentafluorobenzene -----ISTD-----											
6) chlorodifluoromethane											
	0.593	0.597		0.560	0.550	0.700	0.506	0.599	0.659	0.596	10.31
7) dichlorodifluoromethane											
	0.700	0.685		0.677	0.698	0.810	0.643	0.732	0.774	0.715	7.62
8) freon 142b										0.000	-1.00
9) freon 114										0.000	-1.00
10) chloromethane											
	0.822	0.831		0.780	0.793	0.944	0.699	0.816	0.916	0.825	9.36
11) vinyl chloride											
	0.778	0.784	0.771	0.762	0.766	0.793	0.714	0.778	0.858	0.778	4.83
12) 1,3-butadiene										0.000	-1.00
13) bromomethane											
	0.510	0.489		0.471	0.466	0.564	0.439	0.482	0.566	0.499	9.18
14) chloroethane											
	0.383	0.390		0.392	0.389	0.478	0.363	0.398	0.439	0.404	9.07
15) vinyl Bromide											
	0.442	0.452	0.453	0.460	0.456	0.456	0.443	0.470	0.505	0.460	4.15
16) trichlorofluoromethane											
	0.781	0.794	0.802	0.779	0.793	0.836	0.769	0.830	0.855	0.804	3.67
17) ethyl ether											
	0.251	0.258		0.261	0.254	0.219	0.246	0.263	0.270	0.253	6.18
18) 2-chloropropane											
	0.182	0.177		0.177	0.174	0.143	0.168	0.184	0.161	0.171	7.83
19) acrolein											
	0.081	0.075		0.087	0.084		0.083	0.082		0.082	4.99
20) freon 113											
	0.348	0.334	0.231	0.323	0.334	0.345	0.325	0.351	0.344	0.326	11.34
21) 1,1-dichloroethene											
	0.425	0.416	0.409	0.410	0.407	0.482	0.400	0.436	0.460	0.427	6.42
22) acetone											
	0.102	0.093		0.090	0.089	0.113	0.084	0.089	0.116	0.097	12.30
23) acetonitrile											

Initial Calibration Summary

Page 2 of 5

Job Number: JC65355

Sample: V2A7918-ICC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186739.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

		0.047	0.047		0.045	0.044		0.042	0.045	0.054	0.046	8.19
24)	iodomethane											
		0.643	0.651	0.711	0.644	0.651	0.702	0.626	0.671	0.709	0.668	4.78
25)	carbon disulfide											
		1.225	1.206	1.506	1.193	1.171	1.360	1.125	1.233	1.295	1.257	9.20
26)	methylene chloride											
		0.503	0.507	0.650	0.480	0.482	0.518	0.467	0.494	0.528	0.514	10.56
27)	methyl acetate											
		0.354	0.311		0.282	0.293		0.284	0.317		0.307	8.91
28)	methyl tert butyl ether											
		1.237	1.236	1.347	1.236	1.278	1.260	1.221	1.251	1.222	1.254	3.13
29)	trans-1,2-dichloroethene											
		0.470	0.459	0.495	0.450	0.449	0.477	0.441	0.466	0.522	0.470	5.42
30)	hexane											
		0.638	0.632	0.734	0.586	0.597	0.744	0.578	0.663	0.716	0.654	9.77
31)	di-isopropyl ether											
		1.640	1.635	1.718	1.623	1.582	1.596	1.501	1.633	1.686	1.624	3.81
32)	ethyl tert-butyl ether											
		1.506	1.513	1.467	1.513	1.480	1.535	1.395	1.511	1.534	1.495	2.90
33)	2-butanone											
		0.035	0.037		0.039	0.040		0.039	0.039	0.031	0.037	9.16
34)	1,1-dichloroethane											
		0.893	0.875	0.875	0.849	0.840	0.869	0.814	0.877	0.942	0.870	4.12
35)	chloroprene											
		0.685	0.706	0.697	0.691	0.691	0.699	0.687	0.724	0.728	0.701	2.21
36)	acrylonitrile											
		0.124	0.127		0.140	0.146		0.142	0.145		0.137	6.98
37)	vinyl acetate											
		0.065			0.076	0.079		0.078	0.068		0.073	8.24
38)	ethyl acetate											
		0.042	0.056		0.056	0.056		0.055	0.058		0.054	10.80
39)	2,2-dichloropropane											
		0.520	0.503		0.470	0.436	0.604	0.428	0.504	0.533	0.500	11.35
40)	cis-1,2-dichloroethene											
		0.558	0.532	0.603	0.524	0.518	0.579	0.500	0.541	0.532	0.543	5.90
41)	propionitrile											
		0.058	0.056		0.058	0.057	0.044	0.055	0.058	0.056	0.055	8.69
42)	bromochloromethane											
		0.327	0.336	0.271	0.333	0.333	0.333	0.326	0.341	0.338	0.327	6.52
43)	tetrahydrofuran											
		0.038	0.044		0.049	0.048		0.048	0.047		0.046	9.03
44)	chloroform											
		0.892	0.872	1.040	0.855	0.849	0.955	0.824	0.876	0.899	0.896	7.29
45)	tert-Butyl Formate											
		0.319	0.294		0.336	0.330		0.332	0.313	0.257	0.312	8.94
46)	isobutyl alcohol											
		0.015	0.013		0.011	0.011		0.011	0.013		0.012	13.80
47)	dibromofluoromethane (s)											
		0.451	0.449	0.448	0.444	0.452	0.441	0.440	0.443	0.440	0.445	1.07
48)	methacrylonitrile											
		0.169	0.166		0.167	0.168	0.135	0.168	0.169	0.161	0.163	7.12
49)	1,1,1-trichloroethane											
		0.753	0.745	0.812	0.733	0.727	0.768	0.722	0.748	0.774	0.753	3.72
50)	cyclohexane											
		0.682	0.685	0.793	0.660	0.677	0.611	0.675	0.718	0.733	0.693	7.36
51)	1,1-dichloropropene											
		0.650	0.676	0.701	0.658	0.656	0.679	0.645	0.680	0.686	0.670	2.77
52)	tert-amyl alcohol											
		0.013	0.013		0.015	0.015		0.015	0.015		0.014	6.02
53)	carbon tetrachloride											

6.7.1

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Initial Calibration Summary

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Job Number: JC65355

Sample: V2A7918-ICC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186739.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

		0.647	0.656	0.620	0.661	0.668	0.687	0.665	0.681	0.680	0.663	3.11	
54)	I	1,4-difluorobenzene	-----ISTD-----										
55)		1,2-dichloroethane-d4 (s)											
			0.343	0.344	0.339	0.337	0.338	0.337	0.335	0.339	0.336	0.339	0.89
56)		2,2,4-trimethylpentane											
			1.358	1.284	1.383	1.181	1.205	1.314	1.139	1.317	1.442	1.291	7.72
57)		tert-amyl methyl ether											
			1.067	1.032	1.059	0.982	0.951	1.134	0.889	1.015	1.045	1.019	7.02
58)		n-butyl alcohol											
			0.004	0.004		0.005	0.004		0.004	0.005	0.004	0.004	9.19
59)		benzene											
			1.390	1.363	1.559	1.301	1.254	1.450	1.192	1.353	1.437	1.367	8.06
60)		heptane											
			0.273	0.246		0.235	0.235	0.305	0.231	0.258	0.306	0.261	11.75
61)		isopropyl acetate											
			0.257	0.235		0.220	0.224		0.215	0.234	0.264	0.235	7.89
62)		1,2-dichloroethane											
			0.452	0.450	0.534	0.438	0.438	0.551	0.423	0.441	0.483	0.468	9.71
63)		trichloroethene											
			0.353	0.343	0.358	0.338	0.334	0.362	0.333	0.351	0.365	0.349	3.49
64)		ethyl acrylate											
			0.354	0.355		0.341	0.342	0.315	0.336	0.342	0.351	0.342	3.74
65)		2-nitropropane											
			0.102	0.096		0.092	0.093		0.091	0.093	0.110	0.097	7.15
66)		2-chloroethyl vinyl ether											
			0.184	0.180	0.158	0.184	0.181	0.170	0.170	0.183	0.183	0.177	5.15
67)		methyl methacrylate											
			0.061	0.068		0.072	0.070		0.071	0.067	0.056	0.066	8.91
68)		1,2-dichloropropane											
			0.373	0.353	0.303	0.352	0.345	0.407	0.338	0.352	0.363	0.354	7.82
69)		methylcyclohexane											
			0.587	0.580	0.591	0.554	0.557	0.563	0.551	0.604	0.647	0.582	5.29
70)		dibromomethane											
			0.203	0.205	0.202	0.205	0.201	0.213	0.201	0.207	0.200	0.204	2.00
71)		bromodichloromethane											
			0.454	0.467	0.511	0.472	0.464	0.510	0.461	0.467	0.482	0.477	4.37
72)		epichlorohydrin											
			0.025	0.025		0.025	0.023		0.024	0.024	0.023	0.024	4.29
73)		cis-1,3-dichloropropene											
			0.584	0.568	0.551	0.573	0.569	0.555	0.556	0.581	0.606	0.571	3.04
74)		4-methyl-2-pentanone											
			0.101	0.099		0.100	0.099	0.103	0.098	0.101	0.101	0.100	1.60
75)		3-methyl-1-butanol											
			0.005	0.005		0.005	0.005		0.005	0.005	0.004	0.005	3.86
76)	I	chlorobenzene-d5	-----ISTD-----										
77)		toluene-d8 (s)											
			1.320	1.304	1.325	1.343	1.323	1.306	1.321	1.303	1.305	1.317	1.02
78)		toluene											
			0.980	0.950	1.034	0.954	0.937	1.004	0.914	0.944	1.025	0.971	4.29
79)		trans-1,3-dichloropropene											
			0.591	0.598	0.641	0.608	0.595	0.594	0.582	0.595	0.600	0.601	2.78
80)		ethyl methacrylate											
			0.465	0.443	0.441	0.449	0.448	0.446	0.443	0.446	0.442	0.447	1.62
81)		1,1,2-trichloroethane											
			0.298	0.280	0.275	0.284	0.280	0.280	0.275	0.288	0.291	0.283	2.70
82)		2-hexanone											
			0.103	0.106		0.105	0.104	0.080	0.102	0.104	0.098	0.100	8.48
83)		tetrachloroethene											

Initial Calibration Summary

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Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: V2A7918-ICC7918
Lab FileID: 2A186739.D

		0.424	0.428	0.442	0.428	0.418	0.470	0.413	0.439	0.455	0.435	4.19
84)	1,3-dichloropropane	0.573	0.533	0.536	0.544	0.537	0.556	0.526	0.548	0.546	0.544	2.56
85)	butyl acetate	0.207	0.204		0.202	0.200	0.225	0.207	0.202	0.198	0.206	4.09
86)	dibromochloromethane	0.387	0.397	0.370	0.417	0.417	0.371	0.418	0.406	0.400	0.398	4.75
87)	1,2-dibromoethane	0.361	0.362	0.370	0.366	0.357	0.358	0.354	0.365	0.383	0.364	2.34
88)	n-butyl ether	1.758	1.685	1.834	1.627	1.580	1.867	1.478	1.664	1.780	1.697	7.39
89)	chlorobenzene	1.058	1.063	1.220	1.042	1.019	1.109	0.995	1.048	1.123	1.075	6.25
90)	1,1,1,2-tetrachloroethane	0.390	0.407	0.369	0.407	0.398	0.394	0.398	0.397	0.413	0.397	3.19
91)	ethylbenzene	1.765	1.776	1.888	1.716	1.659	1.899	1.587	1.746	1.840	1.764	5.83
92)	m,p-xylene	0.686	0.670	0.690	0.659	0.646	0.717	0.625	0.680	0.709	0.676	4.35
93)	o-xylene	1.483	1.450	1.508	1.411	1.367	1.494	1.318	1.439	1.569	1.449	5.26
94)	styrene	1.169	1.122	1.186	1.131	1.107	1.178	1.072	1.133	1.163	1.140	3.25
95)	bromoform	0.228	0.245	0.197	0.258	0.261	0.248	0.264	0.241	0.236	0.242	8.49
96)	butyl acrylate	0.716	0.708	0.699	0.708	0.689	0.682	0.692	0.686	0.747	0.703	2.85
97)	isopropylbenzene	1.736	1.750	1.852	1.687	1.648	1.841	1.562	1.737	1.786	1.733	5.32
98)	cis-1,4-dichloro-2-butene	0.137	0.142		0.143	0.150	0.131	0.153	0.136	0.117	0.139	8.10
99)	I 1,4-dichlorobenzene-d	-----ISTD-----										
100)	4-bromofluorobenzene (s)	0.899	0.886	0.874	0.925	0.872	0.881	0.906	0.898	0.921	0.896	2.14
101)	bromobenzene	0.872	0.869	0.974	0.872	0.841	0.923	0.838	0.874	0.920	0.887	4.95
102)	1,1,1,2-tetrachloroethane	0.774	0.771	0.742	0.762	0.728	0.782	0.729	0.744	0.831	0.763	4.23
103)	trans-1,4-dichloro-2-butene	0.180	0.175		0.177	0.186		0.191	0.180	0.146	0.176	8.26
104)	1,2,3-trichloropropane	0.204	0.197		0.196	0.184		0.188	0.192	0.200	0.194	3.60
105)	n-propylbenzene	3.851	3.783	3.972	3.716	3.469	4.013	3.289	3.822	4.105	3.780	6.91
106)	2-chlorotoluene	0.787	0.806	0.834	0.790	0.765	0.800	0.761	0.792	0.842	0.797	3.41
107)	4-chlorotoluene	2.322	2.321	2.510	2.308	2.190	2.411	2.137	2.305	2.529	2.337	5.59
108)	1,3,5-trimethylbenzene	2.696	2.703	3.005	2.697	2.574	2.875	2.476	2.739	2.908	2.742	6.03
109)	tert-butylbenzene	2.262	2.263	2.357	2.260	2.185	2.355	2.146	2.314	2.441	2.287	3.98
110)	1,2,4-trimethylbenzene	2.739	2.761	2.983	2.694	2.591	2.795	2.509	2.762	2.940	2.753	5.44
111)	sec-butylbenzene	3.370	3.370	3.393	3.272	3.150	3.540	2.993	3.367	3.757	3.357	6.47
112)	1,3-dichlorobenzene	1.611	1.580	1.748	1.599	1.555	1.714	1.514	1.606	1.735	1.629	5.11
113)	p-isopropyltoluene											

6.7.1
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Initial Calibration Summary

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Job Number: JC65355

Sample: V2A7918-ICC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186739.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

		2.823	2.815	2.943	2.798	2.713	2.924	2.618	2.879	3.137	2.850	5.18
114)	benzyl chloride	1.550	1.530	1.482	1.558	1.505	1.573	1.463	1.524	1.628	1.535	3.24
115)	1,4-dichlorobenzene	1.608	1.617	1.835	1.608	1.578	1.699	1.534	1.605	1.774	1.651	5.95
116)	1,2-dichlorobenzene	1.561	1.534	1.467	1.534	1.503	1.578	1.454	1.563	1.630	1.536	3.61
117)	n-butylbenzene	1.448	1.426	1.561	1.454	1.443	1.444	1.411	1.449	1.503	1.460	3.10
118)	1,2-dibromo-3-chloropropane	0.147	0.139		0.158	0.160	0.128	0.164	0.149	0.123	0.146	10.38
119)	1,3,5-Trichlorobenzene	1.343	1.318	1.409	1.343	1.312	1.360	1.272	1.345	1.338	1.338	2.77
120)	1,2,4-trichlorobenzene	1.139	1.149	1.101	1.152	1.136	1.072	1.097	1.163	1.141	1.128	2.70
121)	hexachlorobutadiene	0.570	0.570	0.564	0.583	0.562	0.562	0.555	0.569	0.616	0.572	3.19
122)	naphthalene	2.272	2.260	2.457	2.373	2.271	2.184	2.171	2.323	2.195	2.278	4.12
123)	1,2,3-trichlorobenzene	1.008	1.008	0.968	1.051	1.033	0.987	1.011	1.034	1.041	1.016	2.64
124)	hexachloroethane	0.447	0.456		0.495	0.499	0.393	0.503	0.475	0.498	0.471	8.05
125)	2-ethylhexyl acrylate	0.588	0.660		0.765	0.823		0.851	0.679		0.728	14.02
126)	2-methylnaphthalene	1.116	1.198		1.390	1.399		1.426	1.289	1.071	1.270	11.34

(#) = Out of Range ### Number of calibration levels exceeded format ###

M2A7918.M

Tue Apr 24 14:59:57 2018

MS2A

Initial Calibration Verification

Page 1 of 3

Job Number: JC65355

Sample: V2A7918-ICV7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186744.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\V2A7918\2A186744.D

Vial: 13

Acq On : 20 Apr 2018 10:12 pm

Operator: vidishp

Sample : icv7918-50

Inst : Instrumen

Misc : MS25631,V2A7918,w,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2A7918.M (RTE Integrator)

Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um

Last Update : Tue Apr 24 11:42:14 2018

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	85	0.00	7.22
2	ethanol	0.089	0.069	22.5	68	0.00	5.97
3	tertiary butyl alcohol	1.356	1.373	-1.3	86	0.00	7.34
4	1,4-dioxane	0.080	0.064	20.0	67	0.00	11.11
5 I	pentafluorobenzene	1.000	1.000	0.0	97	0.00	9.46
6	chlorodifluoromethane	0.596	0.558	6.4	97	0.00	3.85
7	dichlorodifluoromethane	0.715	0.910	-27.3	131	0.00	3.82
8	freon 142b			-----NA-----			
9	freon 114			-----NA-----			
10	chloromethane	0.825	0.986	-19.5	123	0.00	4.23
11	vinyl chloride	0.778	0.882	-13.4	113	0.00	4.45
12	1,3-butadiene			-----NA-----			
13	bromomethane	0.499	0.543	-8.8	112	0.00	5.10
14	chloroethane	0.404	0.512	-26.7	127	0.00	5.27
15	vinyl Bromide	0.460	0.509	-10.7	108	0.00	5.61
16	trichlorofluoromethane	0.804	0.891	-10.8	111	0.00	5.70
17	ethyl ether	0.253	0.252	0.4	94	0.00	6.12
18	2-chloropropane	0.171	0.193	-12.9	106	0.00	6.32
19	acrolein	0.082	0.089	-8.5	100	0.00	6.39
20	freon 113	0.326	0.369	-13.2	111	0.00	6.50
21	1,1-dichloroethene	0.427	0.405	5.2	96	0.00	6.54
22	acetone	0.097	0.086	11.3	92	0.00	6.61
23	acetonitrile			-----NA-----			
24	iodomethane	0.668	0.787	-17.8	119	0.00	6.83
25	carbon disulfide	1.257	1.354	-7.7	110	0.00	6.95
26	methylene chloride	0.514	0.477	7.2	97	0.00	7.27
27	methyl acetate	0.313	0.264	15.7	91	0.00	7.07
28	methyl tert butyl ether	1.254	1.242	1.2	98	0.00	7.57
29	trans-1,2-dichloroethene	0.470	0.450	4.3	97	0.00	7.64
30	hexane	0.654	0.653	0.2	108	0.00	7.92
31	di-isopropyl ether	1.624	1.606	1.1	96	0.00	8.17
32	ethyl tert-butyl ether	1.495	1.484	0.7	95	0.00	8.63
33	2-butanone	0.037	0.039	-5.4	97	0.00	8.92
34	1,1-dichloroethane	0.870	0.872	-0.2	100	0.00	8.21
35	chloroprene	0.701	0.749	-6.8	105	0.00	8.32
36	acrylonitrile	0.137	0.157	-14.6	109	0.00	7.62
37	vinyl acetate	0.073	0.080	-9.6	103	0.00	8.20
38	ethyl acetate	0.054	0.056	-3.7	97	0.00	8.93
39	2,2-dichloropropane	0.500	0.473	5.4	98	0.00	8.94
40	cis-1,2-dichloroethene	0.543	0.545	-0.4	101	0.00	8.95
41	propionitrile	0.055	0.055	0.0	93	0.00	9.03

Initial Calibration Verification

Page 2 of 3

Job Number: JC65355

Sample: V2A7918-ICV7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186744.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

42	bromochloromethane	0.327	0.341	-4.3	100	0.00	9.27
43	tetrahydrofuran	0.046	0.047	-2.2	94	0.00	9.30
44	chloroform	0.896	0.887	1.0	101	0.00	9.32
45	tert-Butyl Formate	0.312	0.230	26.3	67	0.00	9.34
46	isobutyl alcohol	0.012	0.010	16.7	91	0.00	9.76
47 S	dibromofluoromethane (s)	0.445	0.452	-1.6	99	0.00	9.52
48	methacrylonitrile	0.163	0.168	-3.1	97	0.00	9.21
49	1,1,1-trichloroethane	0.753	0.765	-1.6	101	0.00	9.56
50	cyclohexane	0.693	0.774	-11.7	114	0.00	9.62
51	1,1-dichloropropene	0.670	0.689	-2.8	102	0.00	9.74
52	tert-amyl alcohol	0.014	0.014	0.0	91	0.00	9.87
53	carbon tetrachloride	0.663	0.701	-5.7	103	0.00	9.76
54 I	1,4-difluorobenzene	1.000	1.000	0.0	98	0.00	10.38
55 S	1,2-dichloroethane-d4 (s)	0.339	0.338	0.3	98	0.00	9.94
56	2,2,4-trimethylpentane	1.291	1.295	-0.3	107	0.00	9.98
57	tert-amyl methyl ether	1.019	0.968	5.0	96	0.00	10.02
58	n-butyl alcohol	0.004	0.004	0.0	79	0.00	10.51
59	benzene	1.367	1.331	2.6	100	0.00	10.01
60	heptane	0.261	0.276	-5.7	115	0.00	10.16
61	isopropyl acetate	0.235	0.225	4.3	100	0.00	10.02
62	1,2-dichloroethane	0.468	0.447	4.5	99	0.00	10.03
63	trichloroethene	0.349	0.357	-2.3	103	0.00	10.72
64	ethyl acrylate	0.342	0.339	0.9	97	0.00	10.73
65	2-nitropropane	0.097	0.097	0.0	103	0.00	11.51
66	2-chloroethyl vinyl ether	0.177	0.188	-6.2	100	0.00	11.52
67	methyl methacrylate	0.066	0.073	-10.6	99	0.00	10.99
68	1,2-dichloropropane	0.354	0.346	2.3	96	0.00	10.99
69	methylcyclohexane	0.582	0.582	0.0	103	0.00	10.93
70	dibromomethane	0.204	0.210	-2.9	100	0.00	11.16
71	bromodichloromethane	0.477	0.472	1.0	98	0.00	11.29
72	epichlorohydrin	0.024	0.023	4.2	90	0.00	11.65
73	cis-1,3-dichloropropene	0.571	0.580	-1.6	99	0.00	11.74
74	4-methyl-2-pentanone	0.100	0.099	1.0	96	0.00	11.83
75	3-methyl-1-butanol	0.005	0.004	20.0	88	0.00	11.86
76 I	chlorobenzene-d5	1.000	1.000	0.0	99	0.00	13.53
77 S	toluene-d8 (s)	1.317	1.299	1.4	96	0.00	12.02
78	toluene	0.971	0.986	-1.5	103	0.00	12.09
79	trans-1,3-dichloropropene	0.601	0.574	4.5	94	0.00	12.30
80	ethyl methacrylate	0.447	0.424	5.1	94	0.00	12.28
81	1,1,2-trichloroethane	0.283	0.280	1.1	98	0.00	12.52
82	2-hexanone	0.100	0.100	0.0	95	0.00	12.68
83	tetrachloroethene			-----NA-----			
84	1,3-dichloropropane	0.544	0.550	-1.1	101	0.00	12.70
85	butyl acetate	0.205	0.207	-1.0	102	0.00	12.75
86	dibromochloromethane	0.398	0.434	-9.0	104	0.00	12.96
87	1,2-dibromoethane	0.364	0.366	-0.5	99	0.00	13.11
88	n-butyl ether	1.697	1.621	4.5	99	0.00	13.46
89	chlorobenzene	1.075	1.075	0.0	103	0.00	13.56
90	1,1,1,2-tetrachloroethane	0.397	0.421	-6.0	103	0.00	13.62
91	ethylbenzene	1.764	1.816	-2.9	105	0.00	13.61
92	m,p-xylene	0.676	0.696	-3.0	105	0.00	13.71
93	o-xylene	1.449	1.486	-2.6	105	0.00	14.13
94	styrene	1.140	1.188	-4.2	104	0.00	14.14
95	bromoform	0.242	0.273	-12.8	105	0.00	14.41
96	butyl acrylate	0.703	0.708	-0.7	99	0.00	13.95
97	isopropylbenzene	1.733	1.805	-4.2	106	0.00	14.47
98	cis-1,4-dichloro-2-butene	0.139	0.145	-4.3	101	0.00	14.55

6.7.2
6

Initial Calibration Verification

Page 3 of 3

Job Number: JC65355

Sample: V2A7918-ICV7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186744.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	15.83
100	S	4-bromofluorobenzene (s)	0.896	0.880	1.8	99	0.00	14.68
101		bromobenzene	0.887	0.884	0.3	105	0.00	14.87
102		1,1,2,2-tetrachloroethane	0.763	0.732	4.1	100	0.00	14.79
103		trans-1,4-dichloro-2-bute	0.176	0.195	-10.8	114	0.00	14.83
104		1,2,3-trichloropropane	0.194	0.190	2.1	100	0.00	14.86
105		n-propylbenzene	3.780	3.841	-1.6	107	0.00	14.87
106		2-chlorotoluene	0.797	0.797	0.0	105	0.00	15.02
107		4-chlorotoluene	2.337	2.404	-2.9	108	0.00	15.12
108		1,3,5-trimethylbenzene	2.742	2.772	-1.1	107	0.00	15.02
109		tert-butylbenzene	2.287	2.353	-2.9	108	0.00	15.37
110		1,2,4-trimethylbenzene	2.753	2.841	-3.2	109	0.00	15.41
111		sec-butylbenzene	3.357	3.420	-1.9	108	0.00	15.58
112		1,3-dichlorobenzene	1.629	1.644	-0.9	107	0.00	15.77
113		p-isopropyltoluene	2.850	2.994	-5.1	111	0.00	15.70
114		benzyl chloride	1.535	1.232	19.7	82	0.00	15.98
115		1,4-dichlorobenzene	1.651	1.648	0.2	106	0.00	15.86
116		1,2-dichlorobenzene	1.536	1.582	-3.0	107	0.00	16.25
117		n-butylbenzene	1.460	1.541	-5.5	110	0.00	16.11
118		1,2-dibromo-3-chloropropa	0.146	0.153	-4.8	100	0.00	17.03
119		1,3,5-Trichlorobenzene	1.338	1.346	-0.6	104	0.00	17.20
120		1,2,4-trichlorobenzene	1.128	1.175	-4.2	106	0.00	17.84
121		hexachlorobutadiene	0.572	0.588	-2.8	105	0.00	17.95
122		naphthalene	2.278	2.372	-4.1	104	0.00	18.12
123		1,2,3-trichlorobenzene	1.016	1.050	-3.3	104	0.00	18.36
124		hexachloroethane	0.471	0.531	-12.7	111	0.00	16.50
125		2-ethylhexyl acrylate	0.728	0.812	-11.5	110	0.00	17.81
126		2-methylnaphthalene	1.270	1.273	-0.2	95	0.00	19.33

(#) = Out of Range
2A186739.D M2A7918.M

SPCC's out = 0 CCC's out = 0
Tue Apr 24 12:19:04 2018 MS2A

Initial Calibration Verification

Page 1 of 3

Job Number: JC65355

Sample: V2A7918-ICV7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186745.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\V2A7918\2A186745.D

Vial: 14

Acq On : 20 Apr 2018 10:41 pm

Operator: vidishp

Sample : icv7918-50

Inst : Instrumen

Misc : MS25631,V2A7918,w,,,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2A7918.M (RTE Integrator)

Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um

Last Update : Tue Apr 24 11:42:14 2018

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	87	0.00	7.22
2	ethanol			-----NA-----			
3	tertiary butyl alcohol			-----NA-----			
4	1,4-dioxane			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	9.46
6	chlorodifluoromethane			-----NA-----			
7	dichlorodifluoromethane			-----NA-----			
8	freon 142b			-----NA-----			
9	freon 114			-----NA-----			
10	chloromethane			-----NA-----			
11	vinyl chloride			-----NA-----			
12	1,3-butadiene			-----NA-----			
13	bromomethane			-----NA-----			
14	chloroethane			-----NA-----			
15	vinyl Bromide			-----NA-----			
16	trichlorofluoromethane			-----NA-----			
17	ethyl ether			-----NA-----			
18	2-chloropropane			-----NA-----			
19	acrolein			-----NA-----			
20	freon 113			-----NA-----			
21	1,1-dichloroethene			-----NA-----			
22	acetone			-----NA-----			
23	acetonitrile	0.046	0.042	8.7	95	0.00	7.05
24	iodomethane			-----NA-----			
25	carbon disulfide			-----NA-----			
26	methylene chloride			-----NA-----			
27	methyl acetate			-----NA-----			
28	methyl tert butyl ether			-----NA-----			
29	trans-1,2-dichloroethene			-----NA-----			
30	hexane			-----NA-----			
31	di-isopropyl ether			-----NA-----			
32	ethyl tert-butyl ether			-----NA-----			
33	2-butanone			-----NA-----			
34	1,1-dichloroethane			-----NA-----			
35	chloroprene			-----NA-----			
36	acrylonitrile			-----NA-----			
37	vinyl acetate			-----NA-----			
38	ethyl acetate			-----NA-----			
39	2,2-dichloropropane			-----NA-----			
40	cis-1,2-dichloroethene			-----NA-----			
41	propionitrile			-----NA-----			

Initial Calibration Verification

Page 2 of 3

Job Number: JC65355

Sample: V2A7918-ICV7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186745.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

42	bromochloromethane							
43	tetrahydrofuran							
44	chloroform							
45	tert-Butyl Formate							
46	isobutyl alcohol							
47 S	dibromofluoromethane (s)	0.445	0.438	1.6	100	0.00	9.52	
48	methacrylonitrile							
49	1,1,1-trichloroethane							
50	cyclohexane							
51	1,1-dichloropropene							
52	tert-amyl alcohol							
53	carbon tetrachloride							
54 I	1,4-difluorobenzene	1.000	1.000	0.0	98	0.00	10.38	
55 S	1,2-dichloroethane-d4 (s)	0.339	0.350	-3.2	102	0.00	9.94	
56	2,2,4-trimethylpentane							
57	tert-amyl methyl ether							
58	n-butyl alcohol							
59	benzene							
60	heptane							
61	isopropyl acetate							
62	1,2-dichloroethane							
63	trichloroethene							
64	ethyl acrylate							
65	2-nitropropane							
66	2-chloroethyl vinyl ether							
67	methyl methacrylate							
68	1,2-dichloropropane							
69	methylcyclohexane							
70	dibromomethane							
71	bromodichloromethane							
72	epichlorohydrin							
73	cis-1,3-dichloropropene							
74	4-methyl-2-pentanone							
75	3-methyl-1-butanol							
76 I	chlorobenzene-d5	1.000	1.000	0.0	102	0.00	13.53	
77 S	toluene-d8 (s)	1.317	1.290	2.1	98	0.00	12.02	
78	toluene							
79	trans-1,3-dichloropropene							
80	ethyl methacrylate							
81	1,1,2-trichloroethane							
82	2-hexanone							
83	tetrachloroethene	0.435	0.416	4.4	100	0.00	12.67	
84	1,3-dichloropropane							
85	butyl acetate							
86	dibromochloromethane							
87	1,2-dibromoethane							
88	n-butyl ether							
89	chlorobenzene							
90	1,1,1,2-tetrachloroethane							
91	ethylbenzene							
92	m,p-xylene							
93	o-xylene							
94	styrene							
95	bromoform							
96	butyl acrylate							
97	isopropylbenzene							
98	cis-1,4-dichloro-2-butene							

6.7.3

6

Initial Calibration Verification

Page 3 of 3

Job Number: JC65355

Sample: V2A7918-ICV7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186745.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	15.83
100	S	4-bromofluorobenzene (s)	0.896	0.883	1.5	100	0.00	14.68
101		bromobenzene						
102		1,1,2,2-tetrachloroethane						
103		trans-1,4-dichloro-2-bute						
104		1,2,3-trichloropropane						
105		n-propylbenzene						
106		2-chlorotoluene						
107		4-chlorotoluene						
108		1,3,5-trimethylbenzene						
109		tert-butylbenzene						
110		1,2,4-trimethylbenzene						
111		sec-butylbenzene						
112		1,3-dichlorobenzene						
113		p-isopropyltoluene						
114		benzyl chloride						
115		1,4-dichlorobenzene						
116		1,2-dichlorobenzene						
117		n-butylbenzene						
118		1,2-dibromo-3-chloropropa						
119		1,3,5-Trichlorobenzene						
120		1,2,4-trichlorobenzene						
121		hexachlorobutadiene						
122		naphthalene						
123		1,2,3-trichlorobenzene						
124		hexachloroethane						
125		2-ethylhexyl acrylate						
126		2-methylnaphthalene						

(#) = Out of Range
2A186739.D M2A7918.M

SPCC's out = 0 CCC's out = 0
Tue Apr 24 12:19:04 2018 MS2A

6.7.3

6

Continuing Calibration Summary

Page 1 of 3

Job Number: JC65355

Sample: V2A7933-CC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186923.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\eu...18\v2a7933\2a186923.d Vial: 2
 Acq On : 4 May 2018 6:46 am Operator: vidishp
 Sample : cc7918-20 Inst : Instrument #1
 Misc : MS25965,V2A7933,w,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2A7918.M (RTE Integrator)
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
 Last Update : Mon Sep 13 11:48:20 2010
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	128	0.00	7.22
2	ethanol	0.089	0.124	-39.3#	185	0.00	5.98
3	tertiary butyl alcohol	1.356	1.396	-2.9	130	0.00	7.34
4	1,4-dioxane	0.080	0.134	-67.5#	210#	0.00	11.11
5 I	pentafluorobenzene	1.000	1.000	0.0	110	0.00	9.46
6	chlorodifluoromethane	0.596	0.563	5.5	104	0.00	3.85
7	dichlorodifluoromethane	0.715	0.669	6.4	101	0.00	3.82
8	freon 142b			-----NA-----			
9	freon 114			-----NA-----			
10	chloromethane	0.825	0.695	15.8	94	-0.01	4.22
11	vinyl chloride	0.778	0.684	12.1	97	0.00	4.45
12	1,3-butadiene			-----NA-----			
13	bromomethane	0.499	0.439	12.0	100	-0.01	5.09
14	chloroethane	0.404	0.323	20.0#	89	0.00	5.27
15	vinyl Bromide	0.460	0.445	3.3	104	0.00	5.61
16	trichlorofluoromethane	0.804	0.776	3.5	103	0.00	5.70
17	ethyl ether	0.253	0.242	4.3	101	0.00	6.12
18	2-chloropropane	0.171	0.187	-9.4	112	0.00	6.32
19	acrolein	0.082	0.070	14.6	94	0.00	6.40
20	freon 113	0.326	0.391	-19.9	123	-0.01	6.49
21	1,1-dichloroethene	0.427	0.447	-4.7	113	0.00	6.54
22	acetone	0.097	0.089	8.2	111	0.01	6.62
23	acetonitrile	0.046	0.042	8.7	103	0.01	7.06
24	iodomethane	0.668	0.744	-11.4	122	0.00	6.83
25	carbon disulfide	1.257	1.271	-1.1	113	0.00	6.95
26	methylene chloride	0.514	0.493	4.1	110	0.00	7.27
27	methyl acetate	0.307	0.260	15.3	90	0.01	7.08
28	methyl tert butyl ether	1.254	1.203	4.1	106	0.00	7.58
29	trans-1,2-dichloroethene	0.470	0.477	-1.5	113	0.00	7.64
30	hexane	0.654	0.625	4.4	104	0.00	7.93
31	di-isopropyl ether	1.624	1.532	5.7	103	0.00	8.17
32	ethyl tert-butyl ether	1.495	1.409	5.8	103	0.00	8.63
33	2-butanone	0.037	0.035	5.4	99	0.00	8.92
34	1,1-dichloroethane	0.870	0.867	0.3	109	0.00	8.21
35	chloroprene	0.701	0.699	0.3	106	0.00	8.32
36	acrylonitrile	0.137	0.124	9.5	94	0.00	7.62
37	vinyl acetate	0.073	0.069	5.5	112	0.00	8.20
38	ethyl acetate	0.054	0.047	13.0	89	0.00	8.93
39	2,2-dichloropropane	0.500	0.579	-15.8	126	0.00	8.94
40	cis-1,2-dichloroethene	0.543	0.544	-0.2	111	0.00	8.95
41	propionitrile	0.055	0.053	3.6	100	0.00	9.03

Continuing Calibration Summary

Page 2 of 3

Job Number: JC65355

Sample: V2A7933-CC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186923.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

42	bromochloromethane	0.327	0.349	-6.7	113	0.00	9.26
43	tetrahydrofuran	0.046	0.045	2.2	106	0.00	9.30
44	chloroform	0.896	0.897	-0.1	113	0.00	9.32
45	tert-Butyl Formate	0.312	0.289	7.4	102	0.00	9.34
46	isobutyl alcohol	0.012	0.014	-16.7	120	0.00	9.77
47 S	dibromofluoromethane (s)	0.445	0.428	3.8	106	0.00	9.52
48	methacrylonitrile	0.163	0.147	9.8	95	0.00	9.21
49	1,1,1-trichloroethane	0.753	0.799	-6.1	118	0.00	9.56
50	cyclohexane	0.693	0.647	6.6	99	0.00	9.62
51	1,1-dichloropropene	0.670	0.684	-2.1	111	0.00	9.74
52	tert-amyl alcohol	0.014	0.016	-14.3	120	0.00	9.87
53	carbon tetrachloride	0.663	0.727	-9.7	117	0.00	9.76
54 I	1,4-difluorobenzene	1.000	1.000	0.0	104	0.00	10.38
55 S	1,2-dichloroethane-d4 (s)	0.339	0.349	-2.9	107	0.00	9.94
56	2,2,4-trimethylpentane	1.291	1.271	1.5	100	0.00	9.98
57	tert-amyl methyl ether	1.019	0.985	3.3	101	0.00	10.02
58	n-butyl alcohol	0.004	0.007	-75.0#	155	0.00	10.51
59	benzene	1.367	1.378	-0.8	106	0.00	10.01
60	heptane	0.261	0.250	4.2	100	0.00	10.16
61	isopropyl acetate	0.235	0.233	0.9	103	0.00	10.02
62	1,2-dichloroethane	0.468	0.484	-3.4	114	0.00	10.03
63	trichloroethene	0.349	0.371	-6.3	110	0.00	10.72
64	ethyl acrylate	0.342	0.312	8.8	95	0.01	10.73
65	2-nitropropane	0.097	0.098	-1.0	109	0.00	11.51
66	2-chloroethyl vinyl ether	0.177	0.178	-0.6	101	0.00	11.52
67	methyl methacrylate	0.066	0.070	-6.1	108	0.00	11.00
68	1,2-dichloropropane	0.354	0.355	-0.3	105	0.00	10.99
69	methylcyclohexane	0.582	0.593	-1.9	102	0.00	10.93
70	dibromomethane	0.204	0.222	-8.8	112	0.00	11.16
71	bromodichloromethane	0.477	0.509	-6.7	113	0.00	11.29
72	epichlorohydrin	0.024	0.025	-4.2	110	0.00	11.65
73	cis-1,3-dichloropropene	0.571	0.606	-6.1	108	0.00	11.74
74	4-methyl-2-pentanone	0.100	0.093	7.0	96	0.00	11.83
75	3-methyl-1-butanol	0.005	0.006	-20.0	127	0.00	11.85
76 I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	13.53
77 S	toluene-d8 (s)	1.317	1.244	5.5	102	0.00	12.02
78	toluene	0.971	0.950	2.2	108	0.00	12.09
79	trans-1,3-dichloropropene	0.601	0.600	0.2	108	0.00	12.30
80	ethyl methacrylate	0.447	0.416	6.9	100	0.00	12.29
81	1,1,2-trichloroethane	0.283	0.279	1.4	104	0.00	12.52
82	2-hexanone	0.100	0.095	5.0	98	0.00	12.68
83	tetrachloroethene	0.435	0.495	-13.8	121	0.00	12.67
84	1,3-dichloropropane	0.544	0.540	0.7	105	0.00	12.69
85	butyl acetate	0.206	0.185	10.2	98	0.00	12.75
86	dibromochloromethane	0.398	0.450	-13.1	118	0.00	12.96
87	1,2-dibromoethane	0.364	0.362	0.5	106	0.00	13.11
88	n-butyl ether	1.697	1.564	7.8	100	0.00	13.46
89	chlorobenzene	1.075	1.101	-2.4	112	0.00	13.56
90	1,1,1,2-tetrachloroethane	0.397	0.439	-10.6	118	0.00	13.62
91	ethylbenzene	1.764	1.807	-2.4	111	0.00	13.60
92	m,p-xylene	0.676	0.696	-3.0	109	0.00	13.71
93	o-xylene	1.449	1.489	-2.8	111	0.00	14.13
94	styrene	1.140	1.177	-3.2	111	0.00	14.14
95	bromoform	0.242	0.305	-26.0#	135	0.00	14.41
96	butyl acrylate	0.703	0.633	10.0	99	0.00	13.96
97	isopropylbenzene	1.733	1.807	-4.3	111	0.00	14.47
98	cis-1,4-dichloro-2-butene	0.139	0.149	-7.2	118	0.00	14.55

6.7.4
6

Continuing Calibration Summary

Page 3 of 3

Job Number: JC65355

Sample: V2A7933-CC7918

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 2A186923.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	116	0.00	15.83
100	S	4-bromofluorobenzene (s)	0.896	0.799	10.8	103	0.00	14.68
101		bromobenzene	0.887	0.912	-2.8	121	0.00	14.87
102		1,1,2,2-tetrachloroethane	0.763	0.690	9.6	108	0.00	14.79
103		trans-1,4-dichloro-2-bute	0.176	0.176	0.0	113	0.00	14.82
104		1,2,3-trichloropropane	0.194	0.182	6.2	110	0.00	14.85
105		n-propylbenzene	3.780	3.660	3.2	111	0.00	14.87
106		2-chlorotoluene	0.797	0.814	-2.1	119	0.00	15.02
107		4-chlorotoluene	2.337	2.207	5.6	111	0.00	15.12
108		1,3,5-trimethylbenzene	2.742	2.616	4.6	111	0.00	15.02
109		tert-butylbenzene	2.287	2.271	0.7	114	0.00	15.37
110		1,2,4-trimethylbenzene	2.753	2.616	5.0	110	0.00	15.41
111		sec-butylbenzene	3.357	3.201	4.6	110	0.00	15.58
112		1,3-dichlorobenzene	1.629	1.665	-2.2	120	0.00	15.77
113		p-isopropyltoluene	2.850	2.807	1.5	113	0.00	15.70
114		benzyl chloride	1.535	1.521	0.9	116	0.00	15.97
115		1,4-dichlorobenzene	1.651	1.709	-3.5	123	0.00	15.86
116		1,2-dichlorobenzene	1.536	1.611	-4.9	119	0.00	16.25
117		n-butylbenzene	1.460	1.376	5.8	110	0.00	16.11
118		1,2-dibromo-3-chloropropa	0.146	0.163	-11.6	127	0.00	17.03
119		1,3,5-Trichlorobenzene	1.338	1.456	-8.8	125	0.00	17.20
120		1,2,4-trichlorobenzene	1.128	1.260	-11.7	126	0.00	17.84
121		hexachlorobutadiene	0.572	0.621	-8.6	126	0.00	17.94
122		naphthalene	2.278	2.313	-1.5	115	0.00	18.12
123		1,2,3-trichlorobenzene	1.016	1.162	-14.4	130	0.00	18.36
124		hexachloroethane	0.471	0.566	-20.2#	138	0.00	16.50
125		2-ethylhexyl acrylate	0.728	0.538	26.1#	92	0.00	17.80
126		2-methylnaphthalene	1.270	1.250	1.6	112	0.00	19.33

(#) = Out of Range
2A186738.D M2A7918.M

SPCC's out = 0 CCC's out = 0
Mon May 07 04:16:00 2018

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11756A-MB1	3P67820.D	1	05/17/18	JB	05/04/18	OP11756A	E3P3226

The QC reported here applies to the following samples:

Method: SW846 8270D BY SIM

JC65355-3, JC65355-4, JC65355-7

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	ND	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	0.117	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	53% 15-110%
4165-62-2	Phenol-d5	36% 12-110%
118-79-6	2,4,6-Tribromophenol	90% 32-143%
4165-60-0	Nitrobenzene-d5	79% 29-124%
321-60-8	2-Fluorobiphenyl	70% 23-122%
1718-51-0	Terphenyl-d14	83% 22-130%

Blank Spike Summary

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11756A-BS12	3P67821.D	1	05/17/18	JB	05/04/18	OP11756A	E3P3226

The QC reported here applies to the following samples:

Method: SW846 8270D BY SIM

JC65355-3, JC65355-4, JC65355-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	1	0.755	76	31-135
208-96-8	Acenaphthylene	1	0.716	72	28-130
120-12-7	Anthracene	1	0.824	82	40-125
56-55-3	Benzo(a)anthracene	1	0.802	80	38-132
50-32-8	Benzo(a)pyrene	1	0.606	61	31-110
205-99-2	Benzo(b)fluoranthene	1	0.651	65	31-113
191-24-2	Benzo(g,h,i)perylene	1	0.502	50	18-110
207-08-9	Benzo(k)fluoranthene	1	0.534	53	31-119
218-01-9	Chrysene	1	0.708	71	43-119
53-70-3	Dibenzo(a,h)anthracene	1	0.571	57	20-112
206-44-0	Fluoranthene	1	0.804	80	48-118
86-73-7	Fluorene	1	0.759	76	42-123
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.514	51	18-113
91-20-3	Naphthalene	1	0.743	74	30-114
85-01-8	Phenanthrene	1	0.811	81	45-125
129-00-0	Pyrene	1	0.836	84	48-125
123-91-1	1,4-Dioxane	1	0.506	51	10-110

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	50%	15-110%
4165-62-2	Phenol-d5	36%	12-110%
118-79-6	2,4,6-Tribromophenol	84%	32-143%
4165-60-0	Nitrobenzene-d5	71%	29-124%
321-60-8	2-Fluorobiphenyl	63%	23-122%
1718-51-0	Terphenyl-d14	84%	22-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11756A-MS	3P67822.D	1	05/17/18	JB	05/04/18	OP11756A	E3P3226
OP11756A-MSD	3P67823.D	1	05/17/18	JB	05/04/18	OP11756A	E3P3226
JC65355-3	3P67824.D	1	05/17/18	JB	05/04/18	OP11756A	E3P3226

The QC reported here applies to the following samples:

Method: SW846 8270D BY SIM

JC65355-3, JC65355-4, JC65355-7

CAS No.	Compound	JC65355-3 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	1	0.833	83	1	0.838	84	1	22-149/33
208-96-8	Acenaphthylene	ND	1	0.797	80	1	0.814	81	2	20-146/36
120-12-7	Anthracene	ND	1	0.856	86	1	0.892	89	4	28-144/32
56-55-3	Benzo(a)anthracene	ND	1	0.836	84	1	0.900	90	7	27-144/36
50-32-8	Benzo(a)pyrene	ND	1	0.618	62	1	0.696	70	12	21-113/41
205-99-2	Benzo(b)fluoranthene	ND	1	0.682	68	1	0.739	74	8	21-123/41
191-24-2	Benzo(g,h,i)perylene	ND	1	0.569	57	1	0.616	62	8	10-113/48
207-08-9	Benzo(k)fluoranthene	ND	1	0.592	59	1	0.636	64	7	23-122/42
218-01-9	Chrysene	ND	1	0.723	72	1	0.759	76	5	31-128/34
53-70-3	Dibenzo(a,h)anthracene	ND	1	0.585	59	1	0.577	58	1	12-114/47
206-44-0	Fluoranthene	ND	1	0.824	82	1	0.865	87	5	34-134/32
86-73-7	Fluorene	ND	1	0.830	83	1	0.872	87	5	32-138/33
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1	0.571	57	1	0.610	61	7	11-116/49
91-20-3	Naphthalene	ND	1	0.887	89	1	0.823	82	7	13-141/33
85-01-8	Phenanthrene	ND	1	0.868	87	1	0.886	89	2	33-139/31
129-00-0	Pyrene	ND	1	0.875	88	1	0.923	92	5	35-142/33
123-91-1	1,4-Dioxane	ND	1	0.547	55	1	0.514	51	6	10-125/46

CAS No.	Surrogate Recoveries	MS	MSD	JC65355-3	Limits
367-12-4	2-Fluorophenol	47%	52%		15-110%
4165-62-2	Phenol-d5	34%	40%		12-110%
118-79-6	2,4,6-Tribromophenol	88%	95%		32-143%
4165-60-0	Nitrobenzene-d5	70%	74%	69%	29-124%
321-60-8	2-Fluorobiphenyl	69%	71%	64%	23-122%
1718-51-0	Terphenyl-d14	75%	68%	80%	22-130%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3217-DFTPP

Injection Date: 05/11/18

Lab File ID: 3P67555.D

Injection Time: 22:23

Instrument ID: GCMS3P

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	37652	34.3	Pass
68	Less than 2.0% of mass 69	82	0.07 (0.15) ^a	Pass
69	Mass 69 relative abundance	54674	49.8	Pass
70	Less than 2.0% of mass 69	329	0.30 (0.60) ^a	Pass
127	40.0 - 60.0% of mass 198	55794	50.8	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	109728	100.0	Pass
199	5.0 - 9.0% of mass 198	6943	6.33	Pass
275	10.0 - 30.0% of mass 198	27418	25.0	Pass
365	1.0 - 100.0% of mass 198	3582	3.26	Pass
441	Present, but less than mass 443	10371	9.45 (79.8) ^b	Pass
442	40.0 - 100.0% of mass 198	71293	65.0	Pass
443	17.0 - 23.0% of mass 442	12995	11.8 (18.2) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P3217-ICC3217	3P67556.D	05/11/18	22:34	00:11	Initial cal 1.0
E3P3217-IC3217	3P67557.D	05/11/18	22:55	00:32	Initial cal 0.5
E3P3217-IC3217	3P67558.D	05/11/18	23:16	00:53	Initial cal 5.0
E3P3217-IC3217	3P67559.D	05/11/18	23:37	01:14	Initial cal 2.5
E3P3217-IC3217	3P67560.D	05/11/18	23:58	01:35	Initial cal 0.2
E3P3217-IC3217	3P67561.D	05/12/18	00:19	01:56	Initial cal 0.1
E3P3217-IC3217	3P67562A.D	05/12/18	00:47	02:24	Initial cal 0.05
E3P3217-IC3217	3P67563.D	05/12/18	01:08	02:45	Initial cal 0.02
E3P3217-IC3217	3P67564.D	05/12/18	01:29	03:06	Initial cal 0.01
E3P3217-ICV3217	3P67566.D	05/12/18	02:11	03:48	Initial cal verification 1

Instrument Performance Check (DFTPP)

Page 1 of 2

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3218-DFTPP

Injection Date: 05/12/18

Lab File ID: 3P67567.D

Injection Time: 14:22

Instrument ID: GCMS3P

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	83173	35.1	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	119490	50.4	Pass
70	Less than 2.0% of mass 69	32	0.01 (0.03) ^a	Pass
127	40.0 - 60.0% of mass 198	121631	51.3	Pass
197	Less than 1.0% of mass 198	1163	0.49	Pass
198	Base peak, 100% relative abundance	236891	100.0	Pass
199	5.0 - 9.0% of mass 198	16351	6.90	Pass
275	10.0 - 30.0% of mass 198	57645	24.3	Pass
365	1.0 - 100.0% of mass 198	7501	3.17	Pass
441	Present, but less than mass 443	21450	9.05 (83.4) ^b	Pass
442	40.0 - 100.0% of mass 198	137296	58.0	Pass
443	17.0 - 23.0% of mass 442	25730	10.9 (18.7) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P3218-ICV3217	3P67568.D	05/12/18	14:40	00:18	Initial cal verification 5
E3P3218-CC3217	3P67569.D	05/12/18	15:10	00:48	Continuing cal 1.0
OP11873A-MB2	3P67570.D	05/12/18	15:34	01:12	Method Blank
OP11873A-LB9	3P67571.D	05/12/18	15:55	01:33	Leachate Blank
OP11873A-BS12	3P67572.D	05/12/18	16:16	01:54	Blank Spike
ZZZZZZ	3P67573.D	05/12/18	16:37	02:15	(unrelated sample)
ZZZZZZ	3P67574.D	05/12/18	16:58	02:36	(unrelated sample)
ZZZZZZ	3P67575.D	05/12/18	17:19	02:57	(unrelated sample)
ZZZZZZ	3P67576.D	05/12/18	17:40	03:18	(unrelated sample)
ZZZZZZ	3P67577.D	05/12/18	18:01	03:39	(unrelated sample)
ZZZZZZ	3P67578.D	05/12/18	18:22	04:00	(unrelated sample)
ZZZZZZ	3P67579.D	05/12/18	18:43	04:21	(unrelated sample)
ZZZZZZ	3P67580.D	05/12/18	19:04	04:42	(unrelated sample)
ZZZZZZ	3P67581.D	05/12/18	19:25	05:03	(unrelated sample)
ZZZZZZ	3P67583.D	05/12/18	20:07	05:45	(unrelated sample)
ZZZZZZ	3P67584.D	05/12/18	20:28	06:06	(unrelated sample)
ZZZZZZ	3P67585.D	05/12/18	20:49	06:27	(unrelated sample)
ZZZZZZ	3P67586.D	05/12/18	21:10	06:48	(unrelated sample)
JC65067-1	3P67587.D	05/12/18	21:31	07:09	(used for QC only; not part of job JC65355)

Instrument Performance Check (DFTPP)

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:	E3P3218-DFTPP	Injection Date:	05/12/18
Lab File ID:	3P67567.D	Injection Time:	14:22
Instrument ID:	GCMS3P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JC65067-1	3P67588.D	05/12/18	21:52	07:30	(used for QC only; not part of job JC65355)
ZZZZZZ	3P67589.D	05/12/18	22:13	07:51	(unrelated sample)
ZZZZZZ	3P67593.D	05/12/18	23:37	09:15	(unrelated sample)
ZZZZZZ	3P67595.D	05/13/18	00:19	09:57	(unrelated sample)

7.4.2
7

Instrument Performance Check (DFTPP)

Page 1 of 2

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3226-DFTPP

Injection Date: 05/17/18

Lab File ID: 3P67802.D

Injection Time: 08:45

Instrument ID: GCMS3P

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	73045	39.6	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	104346	56.6	Pass
70	Less than 2.0% of mass 69	368	0.20 (0.35) ^a	Pass
127	40.0 - 60.0% of mass 198	98525	53.4	Pass
197	Less than 1.0% of mass 198	323	0.18	Pass
198	Base peak, 100% relative abundance	184504	100.0	Pass
199	5.0 - 9.0% of mass 198	12771	6.92	Pass
275	10.0 - 30.0% of mass 198	42293	22.9	Pass
365	1.0 - 100.0% of mass 198	5297	2.87	Pass
441	Present, but less than mass 443	17796	9.65 (78.8) ^b	Pass
442	40.0 - 100.0% of mass 198	121568	65.9	Pass
443	17.0 - 23.0% of mass 442	22574	12.2 (18.6) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P3226-CC3217	3P67803.D	05/17/18	08:57	00:12	Continuing cal 1.0
OP11756A-MB1	3P67820.D	05/17/18	09:42	00:57	Method Blank
OP11756A-BS12	3P67821.D	05/17/18	10:03	01:18	Blank Spike
ZZZZZZ	3P67805.D	05/17/18	10:25	01:40	(unrelated sample)
ZZZZZZ	3P67806.D	05/17/18	10:47	02:02	(unrelated sample)
ZZZZZZ	3P67807.D	05/17/18	11:10	02:25	(unrelated sample)
ZZZZZZ	3P67808.D	05/17/18	11:32	02:47	(unrelated sample)
ZZZZZZ	3P67809.D	05/17/18	11:55	03:10	(unrelated sample)
ZZZZZZ	3P67810.D	05/17/18	12:17	03:32	(unrelated sample)
ZZZZZZ	3P67811.D	05/17/18	12:39	03:54	(unrelated sample)
ZZZZZZ	3P67812.D	05/17/18	13:01	04:16	(unrelated sample)
ZZZZZZ	3P67813.D	05/17/18	13:23	04:38	(unrelated sample)
ZZZZZZ	3P67814.D	05/17/18	13:45	05:00	(unrelated sample)
ZZZZZZ	3P67815.D	05/17/18	14:06	05:21	(unrelated sample)
ZZZZZZ	3P67816.D	05/17/18	14:29	05:44	(unrelated sample)
ZZZZZZ	3P67817.D	05/17/18	14:52	06:07	(unrelated sample)
ZZZZZZ	3P67818A.D	05/17/18	15:22	06:37	(unrelated sample)
ZZZZZZ	3P67819.D	05/17/18	15:43	06:58	(unrelated sample)
ZZZZZZ	3P67833.D	05/17/18	16:29	07:44	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:	E3P3226-DFTPP	Injection Date:	05/17/18
Lab File ID:	3P67802.D	Injection Time:	08:45
Instrument ID:	GCMS3P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3P67834.D	05/17/18	16:52	08:07	(unrelated sample)
OP11756A-MS	3P67822.D	05/17/18	17:15	08:30	Matrix Spike
OP11756A-MSD	3P67823.D	05/17/18	17:38	08:53	Matrix Spike Duplicate
JC65355-3	3P67824.D	05/17/18	18:00	09:15	1-SUF-009-001-03
JC65355-4	3P67825.D	05/17/18	18:23	09:38	1-SUF-009-001-04
JC65355-7	3P67826.D	05/17/18	18:46	10:01	1-SUF-009-001-07
ZZZZZZ	3P67827.D	05/17/18	19:07	10:22	(unrelated sample)
ZZZZZZ	3P67828.D	05/17/18	19:29	10:44	(unrelated sample)
ZZZZZZ	3P67829.D	05/17/18	19:50	11:05	(unrelated sample)
ZZZZZZ	3P67830.D	05/17/18	20:13	11:28	(unrelated sample)
ZZZZZZ	3P67831.D	05/17/18	20:36	11:51	(unrelated sample)

7.4.3
7

Instrument Performance Check (DFTPP)

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Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3232-DFTPP

Injection Date: 05/21/18

Lab File ID: 3P67975.D

Injection Time: 08:41

Instrument ID: GCMS3P

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	60173	34.7	Pass
68	Less than 2.0% of mass 69	102	0.06 (0.12) ^a	Pass
69	Mass 69 relative abundance	86338	49.8	Pass
70	Less than 2.0% of mass 69	458	0.26 (0.53) ^a	Pass
127	40.0 - 60.0% of mass 198	85420	49.3	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	173240	100.0	Pass
199	5.0 - 9.0% of mass 198	11799	6.81	Pass
275	10.0 - 30.0% of mass 198	43055	24.9	Pass
365	1.0 - 100.0% of mass 198	5264	3.04	Pass
441	Present, but less than mass 443	18956	10.9 (79.5) ^b	Pass
442	40.0 - 100.0% of mass 198	127557	73.6	Pass
443	17.0 - 23.0% of mass 442	23851	13.8 (18.7) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P3232-CC3217	3P67976.D	05/21/18	08:54	00:13	Continuing cal 1.0
OP12103A-MB1	3P67977.D	05/21/18	09:24	00:43	Method Blank
OP12103A-BS12	3P67978.D	05/21/18	09:47	01:06	Blank Spike
OP12103A-BS12	3P67979.D	05/21/18	10:10	01:29	Blank Spike Duplicate
ZZZZZZ	3P67981.D	05/21/18	10:55	02:14	(unrelated sample)
OP12102A-MB1	3P67982.D	05/21/18	11:18	02:37	Method Blank
OP12102A-BS12	3P67983.D	05/21/18	11:41	03:00	Blank Spike
OP12102A-BS12	3P67984A.D	05/21/18	12:32	03:51	Blank Spike Duplicate
JC65355-4	3P67985.D	05/21/18	12:55	04:14	1-SUF-009-001-04
JC65355-7	3P67986.D	05/21/18	13:18	04:37	1-SUF-009-001-07
ZZZZZZ	3P67987.D	05/21/18	13:41	05:00	(unrelated sample)
OP11999A-MB1	3P67988.D	05/21/18	14:04	05:23	Method Blank
OP11999A-BS12	3P67989.D	05/21/18	14:27	05:46	Blank Spike
OP11999A-BS12	3P67990.D	05/21/18	14:51	06:10	Blank Spike Duplicate
ZZZZZZ	3P67991.D	05/21/18	15:14	06:33	(unrelated sample)
ZZZZZZ	3P67992.D	05/21/18	15:37	06:56	(unrelated sample)
ZZZZZZ	3P67993.D	05/21/18	16:00	07:19	(unrelated sample)
ZZZZZZ	3P67994.D	05/21/18	16:24	07:43	(unrelated sample)
ZZZZZZ	3P67995.D	05/21/18	16:47	08:06	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:	E3P3232-DFTPP	Injection Date:	05/21/18
Lab File ID:	3P67975.D	Injection Time:	08:41
Instrument ID:	GCMS3P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3P67996.D	05/21/18	17:11	08:30	(unrelated sample)
ZZZZZZ	3P67997.D	05/21/18	17:34	08:53	(unrelated sample)
ZZZZZZ	3P67998.D	05/21/18	17:57	09:16	(unrelated sample)

Internal Standard Area Summary

Page 1 of 2

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Check Std: E3P3226-CC3217

Injection Date: 05/17/18

Lab File ID: 3P67803.D

Injection Time: 08:57

Instrument ID: GCMS3P

Method: SW846 8270D BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	187937	7.31	236747	8.77	359200	10.90	274754	13.62
Upper Limit ^a	375874	7.81	473494	9.27	718400	11.40	549508	14.12
Lower Limit ^b	93969	6.81	118374	8.27	179600	10.40	137377	13.12

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
OP11756A-MB1	220150	7.31	287245	8.77	422671	10.90	316203	13.62
OP11756A-BS12	191512	7.31	244093	8.77	358881	10.90	270257	13.62
ZZZZZZ	202803	7.31	253204	8.77	376830	10.90	277785	13.62
ZZZZZZ	197549	7.31	248693	8.77	366629	10.90	271127	13.62
ZZZZZZ	210368	7.31	259301	8.77	386556	10.90	288037	13.62
ZZZZZZ	188217	7.31	235989	8.77	349810	10.90	259455	13.62
ZZZZZZ	202746	7.31	254954	8.77	383816	10.90	283260	13.62
ZZZZZZ	205269	7.31	250018	8.77	375075	10.90	277806	13.62
ZZZZZZ	185957	7.31	232276	8.77	347462	10.90	250023	13.62
ZZZZZZ	208328	7.31	262289	8.77	383362	10.90	280177	13.63
ZZZZZZ	215931	7.31	268414	8.77	388521	10.90	281776	13.62
ZZZZZZ	214764	7.30	267314	8.77	383789	10.90	280617	13.62
ZZZZZZ	198266	7.30	243851	8.77	367106	10.90	264561	13.62
ZZZZZZ	195995	7.31	254134	8.77	370526	10.92	273545	13.63
ZZZZZZ	199271	7.31	250103	8.77	374292	10.91	269168	13.63
ZZZZZZ	185414	7.31	228851	8.77	333975	10.91	251090	13.63
ZZZZZZ	202848	7.31	255809	8.77	387244	10.91	285264	13.63
ZZZZZZ	165860	7.31	211330	8.77	326492	10.91	249480	13.63
ZZZZZZ	176712	7.31	225076	8.77	344530	10.90	262046	13.63
OP11756A-MS	191928	7.31	233441	8.77	351488	10.90	260126	13.63
OP11756A-MSD	169760	7.31	207888	8.77	316300	10.90	234636	13.63
JC65355-3	162419	7.31	201720	8.77	314089	10.91	236123	13.63
JC65355-4 ^c	149603	7.31	185583	8.77	287285	10.91	204231	13.62
JC65355-7 ^c	178708	7.31	225944	8.77	344201	10.90	263719	13.63
ZZZZZZ	150115	7.31	192300	8.77	293142	10.90	222594	13.62
ZZZZZZ	210491	7.31	276241	8.77	393254	10.90	296469	13.63
ZZZZZZ	177779	7.31	231064	8.77	332403	10.90	250622	13.63
ZZZZZZ	283977	7.31	380007	8.77	568171	10.90	443683	13.63
ZZZZZZ	198656	7.31	256045	8.77	383436	10.90	293162	13.63

IS 1 = 1-Methylnaphthalene-d10

IS 2 = Fluorene-d10

IS 3 = Fluoranthene-d10

IS 4 = Benzo(a)pyrene-d12

Internal Standard Area Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Check Std:	E3P3226-CC3217	Injection Date:	05/17/18
Lab File ID:	3P67803.D	Injection Time:	08:57
Instrument ID:	GCMS3P	Method:	SW846 8270D BY SIM

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Sample reextracted outside the holding time for confirmation.

7.5.1
7

Internal Standard Area Summary

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Check Std: E3P3232-CC3217

Injection Date: 05/21/18

Lab File ID: 3P67976.D

Injection Time: 08:54

Instrument ID: GCMS3P

Method: SW846 8270D BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	140815	7.25	176154	8.72	254520	10.85	188651	13.55
Upper Limit ^a	281630	7.75	352308	9.22	509040	11.35	377302	14.05
Lower Limit ^b	70408	6.75	88077	8.22	127260	10.35	94326	13.05

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
OP12103A-MB1 ^c	210621	7.25	273071	8.73	402137	10.85	301210	13.57
OP12103A-BS12	233623	7.25	304774	8.73	439053	10.85	306707	13.56
OP12103A-BSD12	212776	7.26	276012	8.73	394238	10.85	298983	13.57
ZZZZZZ	177859	7.26	227259	8.73	345478	10.85	260340	13.57
OP12102A-MB1	230476	7.26	286600	8.73	388229	10.85	265222	13.57
OP12102A-BS12	201198	7.26	250591	8.73	348997	10.85	243920	13.58
OP12102A-BSD12	170015	7.26	211647	8.73	310646	10.86	215598	13.58
JC65355-4 ^d	170074	7.26	217328	8.73	318351	10.86	241438	13.58
JC65355-7 ^d	210575	7.26	251781	8.73	361937	10.86	267935	13.58
ZZZZZZ	225747	7.26	257526	8.73	399821	10.86	312049	13.58
OP11999A-MB1	202493	7.26	273826	8.73	400107	10.86	296703	13.58
OP11999A-BS12	201798	7.26	252129	8.73	354798	10.86	249882	13.58
OP11999A-BSD12	171183	7.26	211314	8.73	324341	10.86	229168	13.58
ZZZZZZ	200947	7.26	267359	8.73	395205	10.86	302875	13.58
ZZZZZZ	175301	7.26	239756	8.73	349039	10.86	262377	13.58
ZZZZZZ	161511	7.26	211963	8.73	313955	10.86	232738	13.58
ZZZZZZ	174799	7.26	234208	8.73	359514	10.86	273270	13.58
ZZZZZZ	195604	7.26	261917	8.73	390669	10.86	306858	13.59
ZZZZZZ	182245	7.26	245329	8.73	351163	10.86	270353	13.58
ZZZZZZ	192709	7.26	260210	8.73	375938	10.86	275620	13.58
ZZZZZZ	159313	7.26	207976	8.73	316291	10.86	241836	13.58

IS 1 = 1-Methylnaphthalene-d10

IS 2 = Fluorene-d10

IS 3 = Fluoranthene-d10

IS 4 = Benzo(a)pyrene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

(c) contaminated

(d) Confirmation run.

Surrogate Recovery Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Method: SW846 8270D BY SIM	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JC65355-3	3P67824.D	69	64	80
JC65355-4	3P67985.D	76	70	70
JC65355-4	3P67825.D	68	65	79
JC65355-7	3P67986.D	65	63	55
JC65355-7	3P67826.D	59	60	67
OP11756A-BS12	3P67821.D	71	63	84
OP11756A-MB1	3P67820.D	79	70	83
OP11756A-MS	3P67822.D	70	69	75
OP11756A-MSD	3P67823.D	74	71	68

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	29-124%
S2 = 2-Fluorobiphenyl	23-122%
S3 = Terphenyl-d14	22-130%

Initial Calibration Summary

Page 1 of 2

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3217-ICC3217
Lab FileID: 3P67556.D

Response Factor Report MSGC3P

Method : C:\MSDCHEM\1\METHODS\M3P3217SIM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Sat May 12 15:00:58 2018
Response via : Initial Calibration

Calibration Files

2.5 =3p67559.D 1.0 =3p67556.D 0.5 =3p67557.D 0.2 =3p67560.D
0.1 =3p67561.D 0.05=3p67562a.D 0.02=3p67563.D 0.01=3p67564.D
5 =3p67558.D = = =

Compound	2.5	1.0	0.5	0.2	0.1	0.05	0.02	0.01	5	Avg	%RSD
1) I 1-Methylnaphthalene-d	-----ISTD-----										
2) 1,4-dioxane	0.318	0.316	0.364	0.327	0.364	0.275	0.294		0.304	0.320	9.84
3) 2-Fluorophenol	0.783	0.781	0.887	0.815	0.814	0.718	0.742	0.738	0.726	0.778	6.99
4) Phenol-d5	0.955	0.991	1.099	1.004	0.997	0.879	0.893	0.893	0.896	0.956	7.68
5) Phenol	1.023	1.038	1.148	1.066	1.056	0.941	0.964	0.993	0.994	1.025	6.05
6) bis(2-Chloroethyl)ether	0.692	0.712	0.784	0.722	0.720	0.670	0.706	0.697	0.671	0.708	4.80
7) Nitrobenzene-d5	0.909	0.925	1.034	0.948	0.926	0.821	0.839	0.830	0.821	0.895	8.14
8) Naphthalene	2.409	2.384	2.685	2.518	2.514	2.271	2.455	2.725	2.333	2.477	6.13
9) Hexachlorobutadiene	0.456	0.452	0.509	0.475	0.491	0.438	0.456	0.477	0.443	0.466	5.04
10) 2-Methylnaphthalene	1.334	1.370	1.516	1.397	1.408	1.292	1.552	1.885	1.289	1.449	12.89
11) 1-Methylnaphthalene	1.410	1.442	1.585	1.482	1.526	1.341	1.581	1.792	1.354	1.502	9.36
12) I Fluorene-d10	-----ISTD-----										
13) 2-Fluorobiphenyl	1.272	1.366	1.526	1.473	1.490	1.331	1.395	1.407	0.937	1.355	12.99
14) Acenaphthylene	1.730	1.785	1.956	1.784	1.838	1.584	1.809	1.975	1.776	1.804	6.46
15) Acenaphthene	1.139	1.192	1.323	1.222	1.268	1.082	1.202	1.355	1.164	1.216	7.16
16) 4,6-dinitro-2-methylphenol	0.176	0.160	0.128	0.086	0.066			0.220		0.139	41.51
---- Quadratic regression ---- Coefficient = 0.9998											
Response Ratio = -0.00977 + 0.14072 *A + 0.01293 *A^2											
17) Fluorene	1.246	1.284	1.421	1.328	1.360	1.166	1.327	1.485	1.238	1.317	7.42
18) 2,4,6-Tribromophenol	0.209	0.212	0.226	0.201	0.201	0.163	0.164	0.162	0.221	0.195	13.04
19) I Fluoranthene-d10	-----ISTD-----										
20) Hexachlorobenzene	0.269	0.276	0.306	0.288	0.298	0.263	0.275	0.287	0.262	0.280	5.47
21) Pentachlorophenol	0.177	0.179	0.182	0.144	0.124	0.103	0.090	0.081	0.187	0.141	30.14

Initial Calibration Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3217-ICC3217
Lab FileID: 3P67556.D

---- Quadratic regression ---- Coefficient = 0.9999
Response Ratio = -0.00227 + 0.17196 *A + 0.00248 *A^2

22)	Phenanthrene	1.158	1.200	1.312	1.248	1.275	1.151	1.382	1.635	1.140	1.278	12.25
23)	Anthracene	1.174	1.207	1.327	1.165	1.212	1.063	1.151	1.211	1.160	1.185	5.91
24)	Fluoranthene	1.257	1.307	1.430	1.332	1.382	1.289	1.477	1.277	1.253	1.334	5.96
25)	Pyrene	1.269	1.339	1.451	1.308	1.336	1.197	1.272	1.299	1.263	1.304	5.39
26)	Terphenyl-d14	0.658	0.716	0.816	0.743	0.752	0.654	0.669	0.693	0.540	0.694	11.19
27)	Benzo[a]anthracene	1.062	1.082	1.147	1.013	0.998	1.047	1.094	1.208	1.050	1.078	6.09
28)	Chrysene	1.120	1.161	1.293	1.195	1.302	1.261	1.423	1.734	1.091	1.287	15.31
29)	I Benzo(a)pyrene-d12	-----ISTD-----										
30)	Benzo[b]fluoranthene	1.632	1.611	1.642	1.546	1.552	1.873	2.039	1.540		1.679	10.77
31)	Benzo[k]fluoranthene	1.576	1.584	1.863	1.704	2.116	2.030		1.593		1.781	12.61
32)	Benzo[a]pyrene	1.446	1.479	1.586	1.535	1.553	1.347	1.528	1.774	1.420	1.519	7.98
33)	Indeno[1,2,3-cd]pyrene	1.528	1.525	1.619	1.394	1.425	1.370	1.679	2.089	1.527	1.573	13.89
34)	Dibenz[a,h]anthracene	1.279	1.270	1.369	1.176	1.189	1.051	1.174	1.296	1.277	1.231	7.58
35)	Benzo[g,h,i]perylene	1.222	1.230	1.311	1.314	1.288	1.285	1.480	1.875	1.204	1.356	15.54

(#) = Out of Range ### Number of calibration levels exceeded format ###

M3P3217SIM.M Mon May 14 09:05:32 2018

Initial Calibration Verification

Page 1 of 1

Job Number: JC65355

Sample: E3P3217-ICV3217

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 3P67566.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P3217\3p67566.D

Vial: 12

Acq On : 12 May 2018 2:11 am

Operator: johnb1

Sample : icv3217-1

Inst : MSGC3P

Misc : op10752a,e3p3217,1000,,,1,1

Multiplr: 1.00

MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P3217SIM.M (RTE Integrator)

Title : Semi Volatile Extractables by GC/MS

Last Update : Sat May 12 15:00:58 2018

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	98	0.00	7.34
2 t	1,4-dioxane	0.320	0.270	15.6	83	0.01	2.46
6 t	bis(2-Chloroethyl)ether	0.708	0.689	2.7	94	0.00	5.10
8 t	Naphthalene	2.477	2.202	11.1	90	0.00	6.60
9 t	Hexachlorobutadiene	0.466	0.446	4.3	96	0.00	6.74
10 t	2-Methylnaphthalene	1.449	1.239	14.5	88	0.00	7.28
12 I	Fluorene-d10	1.000	1.000	0.0	93	0.00	8.81
14 t	Acenaphthylene	1.804	1.591	11.8	83	0.00	8.16
15 t	Acenaphthene	1.216	1.112	8.6	86	0.00	8.33
17 t	Fluorene	1.317	1.177	10.6	85	0.00	8.84
19 I	Fluoranthene-d10	1.000	1.000	0.0	88	0.00	10.93
20 t	Hexachlorobenzene	0.280	0.274	2.1	87	0.00	9.39
22 t	Phenanthrene	1.278	1.164	8.9	85	0.00	9.78
23 t	Anthracene	1.185	1.083	8.6	79	0.00	9.83
24 t	Fluoranthene	1.334	1.194	10.5	80	0.00	10.95
25 t	Pyrene	1.304	1.158	11.2	76	0.00	11.17
27 t	Benzo[a]anthracene	1.078	0.911	15.5	74	0.00	12.35
28 t	Chrysene	1.287	1.039	19.3	78	0.00	12.39
29 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	76	0.00	13.65
30 t	Benzo[b]fluoranthene	1.679	1.231	26.7	58	0.00	13.36
31 t	Benzo[k]fluoranthene	1.781	1.644	7.7	78	0.00	13.38
32 t	Benzo[a]pyrene	1.519	1.284	15.5	66	0.00	13.67
33 t	Indeno[1,2,3-cd]pyrene	1.573	1.245	20.9	62	-0.01	14.92
34 t	Dibenz[a,h]anthracene	1.231	1.021	17.1	61	-0.01	14.94
35 t	Benzo[g,h,i]perylene	1.356	1.091	19.5	67	-0.02	15.27

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

3p67566.D M3P3217SIM.M

Mon May 14 09:00:35 2018

Initial Calibration Verification

Page 1 of 1

Job Number: JC65355

Account: ILINY Parsons Engineering Science for ILI

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3218-ICV3217

Lab FileID: 3P67568.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P3218\3p67568.D

Vial: 2

Acq On : 12 May 2018 2:40 pm

Operator: johnb1

Sample : icv3217-5

Inst : MSGC3P

Misc : op10752a,e3p3218,1000,,,1,1

Multiplr: 1.00

MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P3217SIM.M (RTE Integrator)

Title : Semi Volatile Extractables by GC/MS

Last Update : Sat May 12 15:00:58 2018

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	108	0.00	7.34
5	Phenol	1.025	0.907	11.5	94	0.00	5.01
12 I	Fluorene-d10	1.000	1.000	0.0	103	0.00	8.81
	----- True	Calc.	% Drift	-----			
16 t	4,6-dinitro-2-methylpheno	5.000	3.501	30.0	64	0.00	8.89
19 I	Fluoranthene-d10	1.000	1.000	0.0	101	0.00	10.94
	----- True	Calc.	% Drift	-----			
21 t	Pentachlorophenol	5.000	4.600	8.0	90	0.00	9.58

(#) = Out of Range

3p67556.D M3P3217SIM.M

SPCC's out = 0 CCC's out = 0

Mon May 14 09:04:30 2018

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: E3P3226-CC3217

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 3P67803.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P3226\3p67803.D

Vial: 2

Acq On : 17 May 2018 8:57 am

Operator: johnb1

Sample : cc3217-1.0

Inst : MSGC3P

Misc : op10752a,e3p3226,1000,,,1,1

Multiplr: 1.00

MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P3217SIM.M (RTE Integrator)

Title : Semi Volatile Extractables by GC/MS

Last Update : Sat May 12 15:00:58 2018

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	80	-0.04	7.31
2 t	1,4-dioxane	0.320	0.340	-6.3	86	-0.06	2.39
3 S	2-Fluorophenol	0.778	0.790	-1.5	81	-0.03	4.07
4 S	Phenol-d5	0.956	1.018	-6.5	82	-0.02	4.98
5	Phenol	1.025	1.081	-5.5	83	-0.02	4.99
6 t	bis(2-Chloroethyl)ether	0.708	0.738	-4.2	83	-0.04	5.06
7 S	Nitrobenzene-d5	0.895	0.917	-2.5	79	-0.04	5.84
8 t	Naphthalene	2.477	2.495	-0.7	84	-0.04	6.56
9 t	Hexachlorobutadiene	0.466	0.425	8.8	75	-0.04	6.70
10 t	2-Methylnaphthalene	1.449	1.363	5.9	80	-0.04	7.24
11 t	1-Methylnaphthalene	1.502	1.438	4.3	80	-0.04	7.34
12 I	Fluorene-d10	1.000	1.000	0.0	75	-0.04	8.77
13 S	2-Fluorobiphenyl	1.355	1.360	-0.4	75	-0.04	7.60
14 t	Acenaphthylene	1.804	1.760	2.4	74	-0.03	8.12
15 t	Acenaphthene	1.216	1.228	-1.0	78	-0.04	8.29
16 t	4,6-dinitro-2-methylpheno	True 5.000	Calc. 5.840	% Drift -16.8	84	-0.03	8.85
17 t	Fluorene	AvgRF 1.317	CCRF 1.309	% Dev 0.6	77	-0.03	8.80
18 S	2,4,6-Tribromophenol	0.195	0.205	-5.1	73	-0.03	9.04
19 I	Fluoranthene-d10	1.000	1.000	0.0	74	-0.03	10.90
20 t	Hexachlorobenzene	0.280	0.275	1.8	73	-0.03	9.35
21 t	Pentachlorophenol	True 5.000	Calc. 3.482	% Drift 30.4#	49	-0.03	9.54
22 t	Phenanthrene	AvgRF 1.278	CCRF 1.251	% Dev 2.1	77	-0.03	9.74
23 t	Anthracene	1.185	1.186	-0.1	73	-0.03	9.79
24 t	Fluoranthene	1.334	1.286	3.6	73	-0.03	10.92
25 t	Pyrene	1.304	1.339	-2.7	74	-0.03	11.14
26 S	Terphenyl-d14	0.694	0.741	-6.8	76	-0.03	11.31
27 t	Benzo[a]anthracene	1.078	1.123	-4.2	77	-0.02	12.33
28 t	Chrysene	1.287	1.145	11.0	73	-0.02	12.36
29 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	78	-0.02	13.62
30 t	Benzo[b]fluoranthene	1.679	1.639	2.4	79	-0.02	13.33
31 t	Benzo[k]fluoranthene	1.781	1.392	21.8#	69	-0.02	13.36

Continuing Calibration Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3226-CC3217
Lab FileID: 3P67803.D

32	t	Benzo[a]pyrene	1.519	1.400	7.8	74	-0.02	13.64
33	t	Indeno[1,2,3-cd]pyrene	1.573	1.526	3.0	78	-0.03	14.89
34	t	Dibenz[a,h]anthracene	1.231	1.300	-5.6	80	-0.03	14.91
35	t	Benzo[g,h,i]perylene	1.356	1.229	9.4	78	-0.04	15.23

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p67556.D M3P3217SIM.M Thu May 17 13:24:48 2018

7.7.4
7

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: E3P3232-CC3217

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 3P67976.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P3232\3p67976.D

Vial: 2

Acq On : 21 May 2018 8:54 am

Operator: JOHNB1

Sample : cc3217-1.0

Inst : MSGC3P

Misc : op10752a,e3p3232,1000,,,1,1

Multiplr: 1.00

MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P3217SIM.M (RTE Integrator)

Title : Semi Volatile Extractables by GC/MS

Last Update : Sat May 12 15:00:58 2018

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	60	-0.03	7.25
2 t	1,4-dioxane	0.320	0.347	-8.4	66	-0.09	2.34
3 S	2-Fluorophenol	0.778	0.820	-5.4	63	-0.05	4.02
4 S	Phenol-d5	0.956	1.030	-7.7	62	-0.04	4.93
5	Phenol	1.025	1.088	-6.1	63	-0.03	4.94
6 t	bis(2-Chloroethyl)ether	0.708	0.737	-4.1	62	-0.05	5.01
7 S	Nitrobenzene-d5	0.895	0.909	-1.6	59	-0.04	5.79
8 t	Naphthalene	2.477	2.468	0.4	62	-0.04	6.51
9 t	Hexachlorobutadiene	0.466	0.443	4.9	59	-0.04	6.65
10 t	2-Methylnaphthalene	1.449	1.354	6.6	59	-0.04	7.19
11 t	1-Methylnaphthalene	1.502	1.440	4.1	60	-0.03	7.29
12 I	Fluorene-d10	1.000	1.000	0.0	56	-0.03	8.72
13 S	2-Fluorobiphenyl	1.355	1.392	-2.7	57	-0.04	7.55
14 t	Acenaphthylene	1.804	1.705	5.5	54	-0.03	8.07
15 t	Acenaphthene	1.216	1.226	-0.8	58	-0.04	8.24
16 t	4,6-dinitro-2-methylpheno	True 5.000	Calc. 6.274	% Drift -25.5#	68	-0.02	8.80
17 t	Fluorene	AvgRF 1.317	CCRF 1.318	% Dev -0.1	58	-0.03	8.75
18 S	2,4,6-Tribromophenol	0.195	0.208	-6.7	55	-0.03	8.98
19 I	Fluoranthene-d10	1.000	1.000	0.0	52	-0.03	10.85
20 t	Hexachlorobenzene	0.280	0.291	-3.9	55	-0.05	9.30
21 t	Pentachlorophenol	True 5.000	Calc. 5.119	% Drift -2.4	52	-0.04	9.49
22 t	Phenanthrene	AvgRF 1.278	CCRF 1.261	% Dev 1.3	55	-0.04	9.69
23 t	Anthracene	1.185	1.208	-1.9	52	-0.04	9.74
24 t	Fluoranthene	1.334	1.334	0.0	53	-0.03	10.86
25 t	Pyrene	1.304	1.351	-3.6	53	-0.03	11.09
26 S	Terphenyl-d14	0.694	0.777	-12.0	57	-0.03	11.25
27 t	Benzo[a]anthracene	1.078	1.091	-1.2	53	-0.03	12.26
28 t	Chrysene	1.287	1.158	10.0	52	-0.02	12.30
29 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	54	-0.05	13.55
30 t	Benzo[b]fluoranthene	1.679	1.562	7.0	52	-0.04	13.27
31 t	Benzo[k]fluoranthene	1.781	1.536	13.8	52	-0.04	13.29

Continuing Calibration Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3232-CC3217
Lab FileID: 3P67976.D

32	t	Benzo[a]pyrene	1.519	1.377	9.3	50#	-0.05	13.58
33	t	Indeno[1,2,3-cd]pyrene	1.573	1.535	2.4	54	-0.09	14.79
34	t	Dibenz[a,h]anthracene	1.231	1.310	-6.4	55	-0.08	14.81
35	t	Benzo[g,h,i]perylene	1.356	1.247	8.0	54	-0.10	15.13

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p67556.D M3P3217SIM.M Mon May 21 12:05:02 2018

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: E3P3233-ECC3217

Account: ILINY Parsons Engineering Science for ILI

Lab FileID: 3P68029.D

Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P3233\3p68029.D

Vial: 2

Acq On : 22 May 2018 6:33 am

Operator: sufiyana

Sample : ecc3217-.5

Inst : MSGC3P

Misc : op11777a,e3p3233,1000,,,1,1

Multiplr: 1.00

MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P3217SIM.M (RTE Integrator)

Title : Semi Volatile Extractables by GC/MS

Last Update : Sat May 12 15:00:58 2018

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1-Methylnaphthalene-d10	1.000	1.000	0.0	67	-0.04	7.25
2 t	1,4-dioxane	0.320	0.364	-13.7	67	-0.08	2.35
3 S	2-Fluorophenol	0.778	0.838	-7.7	63	-0.05	4.02
4 S	Phenol-d5	0.956	1.087	-13.7	66	-0.03	4.93
5	Phenol	1.025	1.130	-10.2	66	-0.03	4.94
6 t	bis(2-Chloroethyl)ether	0.708	0.778	-9.9	66	-0.05	5.01
7 S	Nitrobenzene-d5	0.895	0.989	-10.5	64	-0.05	5.79
8 t	Naphthalene	2.477	2.605	-5.2	65	-0.05	6.51
9 t	Hexachlorobutadiene	0.466	0.473	-1.5	62	-0.05	6.64
10 t	2-Methylnaphthalene	1.449	1.459	-0.7	64	-0.05	7.18
11 t	1-Methylnaphthalene	1.502	1.532	-2.0	65	-0.04	7.28
12 I	Fluorene-d10	1.000	1.000	0.0	65	-0.04	8.71
13 S	2-Fluorobiphenyl	1.355	1.472	-8.6	62	-0.05	7.55
14 t	Acenaphthylene	1.804	1.812	-0.4	60	-0.04	8.07
15 t	Acenaphthene	1.216	1.228	-1.0	60	-0.04	8.23
16 t	4,6-dinitro-2-methylpheno	True 2.500	Calc. 2.375	% Drift 5.0	63	-0.03	8.80
17 t	Fluorene	AvgRF 1.317	CCRF 1.332	% Dev -1.1	61	-0.03	8.74
18 S	2,4,6-Tribromophenol	0.195	0.199	-2.1	57	-0.03	8.98
19 I	Fluoranthene-d10	1.000	1.000	0.0	66	-0.04	10.84
20 t	Hexachlorobenzene	0.280	0.286	-2.1	62	-0.05	9.29
21 t	Pentachlorophenol	True 2.500	Calc. 1.891	% Drift 24.4	46	-0.04	9.49
22 t	Phenanthrene	AvgRF 1.278	CCRF 1.244	% Dev 2.7	62	-0.05	9.68
23 t	Anthracene	1.185	1.214	-2.4	60	-0.04	9.74
24 t	Fluoranthene	1.334	1.330	0.3	61	-0.04	10.85
25 t	Pyrene	1.304	1.337	-2.5	61	-0.04	11.08
26 S	Terphenyl-d14	0.694	0.795	-14.6	64	-0.04	11.24
27 t	Benzo[a]anthracene	1.078	1.090	-1.1	63	-0.03	12.26
28 t	Chrysene	1.287	1.164	9.6	59	-0.03	12.29
29 I	Benzo(a)pyrene-d12	1.000	1.000	0.0	70	-0.06	13.55
30 t	Benzo[b]fluoranthene	1.679	1.679	0.0	71	-0.05	13.26
31 t	Benzo[k]fluoranthene	1.781	1.446	18.8	54	-0.05	13.28

Continuing Calibration Summary

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: E3P3233-ECC3217
Lab FileID: 3P68029.D

32	t	Benzo[a]pyrene	1.519	1.433	5.7	63	-0.06	13.57
33	t	Indeno[1,2,3-cd]pyrene	1.573	1.577	-0.3	68	-0.09	14.78
34	t	Dibenz[a,h]anthracene	1.231	1.317	-7.0	67	-0.09	14.80
35	t	Benzo[g,h,i]perylene	1.356	1.286	5.2	68	-0.11	15.12

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p67557.D M3P3217SIM.M Tue May 22 11:09:10 2018

Metals Analysis

QC Data Summaries



Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV

Date Analyzed: 05/04/18

Methods: SW846 7470A

Analyst: JA

Run ID: MA44336

Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:41	MA44336-STD1	1		B=1.5424E-004 C=2.4374E-002 R=0.9998259
09:42	MA44336-STD2	1		STDB
09:44	MA44336-STD3	1		STDC
09:45	MA44336-STD4	1		STDD
09:47	MA44336-STD5	1		STDE
09:48	MA44336-STD6	1		STDF
09:55	MA44336-ICV1	1		
09:56	MA44336-ICB1	1		
09:58	MA44336-CCV1	1		
09:59	MA44336-CCB1	1		
10:01	MA44336-CRI1	1		
10:02	MP6967-MB2	1		
10:04	MP6967-B2	1		
10:06	ZZZZZZ	1		
10:07	ZZZZZZ	1		
10:08	ZZZZZZ	1		
10:10	ZZZZZZ	1		
10:11	ZZZZZZ	1		
10:13	ZZZZZZ	1		
10:14	MA44336-CCV2	1		
10:15	MA44336-CCB2	1		
10:17	ZZZZZZ	1		
10:18	ZZZZZZ	1		
10:19	ZZZZZZ	1		
10:21	ZZZZZZ	1		
10:22	ZZZZZZ	1		
10:23	ZZZZZZ	1		
10:25	ZZZZZZ	1		
10:26	ZZZZZZ	1		
10:27	ZZZZZZ	1		
10:29	MA44336-CCV3	1		
10:30	MA44336-CCB3	1		
10:32	MP6973-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV
Analyst: JA
Parameters: Hg

Date Analyzed: 05/04/18
Run ID: MA44336

Methods: SW846 7470A

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:33	MP6973-B1	1		
10:35	MP6973-S1	1		
10:36	MP6973-S2	1		
10:38	MP6973-S3	1		
10:39	MP6973-S4	1		
10:41	JC65355-3	1		
10:42	JC65355-3F	1		
10:44	MA44336-CCV4	1		
10:45	MA44336-CCB4	1		
10:46	JC65355-4	1		
10:48	JC65355-4F	1		
10:49	JC65355-7	1		
10:50	JC65355-7F	1		
----->	Last reportable sample/prep for job JC65355			
10:52	ZZZZZZ	1		
10:53	ZZZZZZ	1		
10:54	ZZZZZZ	1		
10:56	ZZZZZZ	1		
10:57	MA44336-CCV5	1		
10:58	MA44336-CCB5	1		
11:00	ZZZZZZ	1		
11:01	ZZZZZZ	1		
11:03	ZZZZZZ	1		
11:05	MA44336-CRI2	1		
11:07	MA44336-CCV6	1		
11:08	MA44336-CCB6	1		
----->	Last reportable CCB for job JC65355			
13:20	MA44336-CCV7	1		
13:21	MA44336-CCB7	1		
13:23	MP6977-MB1	1		
13:24	MP6977-B1	1		
13:26	MP6977-S1	1		
13:27	MP6977-S2	1		
13:29	JC65346-2	1		(sample used for QC only; not part of login JC65355)
13:30	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
Analyst: JA Run ID: MA44336
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:32	ZZZZZZ	1		
13:33	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:36	MA44336-CCV8	1		
13:37	MA44336-CCB8	1		
13:39	ZZZZZZ	1		
13:40	ZZZZZZ	1		
13:41	ZZZZZZ	1		
13:43	ZZZZZZ	1		
13:44	ZZZZZZ	1		
13:45	ZZZZZZ	1		
13:46	ZZZZZZ	1		
13:48	ZZZZZZ	1		
13:50	MA44336-CRI3	1		
13:51	MA44336-CCV9	1		
13:52	MA44336-CCB9	1		

Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
 QC Limits: result < RL Run ID: MA44336 Units: ug/l

Time: Sample ID:			09:56 ICB1		09:59 CCB1		10:15 CCB2		10:30 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	0.20	.016	-0.0410	<0.20	0.0233	<0.20	0.0370	<0.20	0.0389	<0.20

(*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
 QC Limits: result < RL Run ID: MA44336 Units: ug/l

Time: Sample ID:		10:45 CCB4		10:58 CCB5		11:08 CCB6		
Metal	RL	IDL	raw	final	raw	final	raw	final
Mercury	0.20	.016	-0.00310	<0.20	0.0221	<0.20	0.0205	<0.20

(*) Outside of QC limits
 (anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA44336 Units: ug/l

Time:		09:55		09:58		10:14			
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	2.94	98.0	2.5	2.47	98.8	2.5	2.51	100.4

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA44336 Units: ug/l

Time:		10:29		10:44		10:57			
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	2.5	2.49	99.6	2.5	2.48	99.2	2.5	2.46	98.4

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery Run ID: MA44336 Units: ug/l

Time:	11:07
Sample ID: CCV	CCV6
Metal	True
Results	% Rec
Mercury	2.5 2.50 100.0

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: H9050418W1.CSV Date Analyzed: 05/04/18 Methods: SW846 7470A
 QC Limits: 70 to 130 % Recovery Run ID: MA44336 Units: ug/l

Time:				10:01		11:05	
Sample ID:	CRI	CRIA	CRI1			CRI2	
Metal	True	True	Results	% Rec		Results	% Rec
Mercury	0.20		0.209	104.5		0.216	108.0

(*) Outside of QC limits
 (anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As,Ba,Be,B,Cr,Cu,Fe,Pb,Mn,Ni,Se,Tl,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:15	MA44379-STD1	1		STDA
11:20	MA44379-STD2	1		STDB
11:24	ZZZZZZ	1		
11:28	ZZZZZZ	1		
11:34	MA44379-ICV1	1		
11:45	MA44379-ICB1	1		
11:52	MA44379-ICCV1	1		
12:01	MA44379-CCB1	1		
12:06	MA44379-CRI1	1		
12:10	MA44379-CRID1	1		
12:15	MA44379-ICSA1	1		
12:19	MA44379-ICSAB1	1		
12:23	MA44379-HSTD1	1		
12:27	MA44379-HSTD2	1		
12:31	ZZZZZZ	1		
12:36	ZZZZZZ	1		
12:40	ZZZZZZ	1		
12:44	MA44379-CCV1	1		
12:48	MA44379-CCB2	1		
12:53	MP7063-MB1	1		
12:57	MP7063-B1	1		
13:01	MP7063-S1	1		
13:05	MP7063-S2	1		
13:09	JC65645-1	1		(sample used for QC only; not part of login JC65355)
13:14	MP7063-SD1	5		
13:18	ZZZZZZ	5		
13:22	ZZZZZZ	5		
13:26	ZZZZZZ	25		
13:31	MA44379-CCV2	1		
13:35	MA44379-CCB3	1		
13:39	ZZZZZZ	1		
13:44	ZZZZZZ	5		
13:48	ZZZZZZ	25		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As,Ba,Be,B,Cr,Cu,Fe,Pb,Mn,Ni,Se,Tl,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:52	ZZZZZZ	125		
13:57	ZZZZZZ	1		
14:01	ZZZZZZ	1		
14:05	MP7033-S1	2		
14:09	MP7033-S2	2		
14:13	JC65225-4	2		(sample used for QC only; not part of login JC65355)
14:17	MA44379-CCV3	1		
14:22	MA44379-CCB4	1		
14:26	MP7033-SD1	10		
14:30	ZZZZZZ	2		
14:34	MP7047-MB1	1		
14:39	MP7047-MB2	1		
14:43	MP7047-B1	1		
14:47	MP7047-B2	1		
14:51	MP7047-B3	1		
14:55	MP7047-S1	1		
14:59	MP7047-S2	1		
15:03	MA44379-CCV4	1		
15:07	MA44379-CCB5	1		
15:12	JC65732-2F	1		(sample used for QC only; not part of login JC65355)
15:16	MP7047-SD1	5		
15:20	ZZZZZZ	1		
15:25	ZZZZZZ	1		
15:29	ZZZZZZ	1		
15:33	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:42	ZZZZZZ	1		
15:47	ZZZZZZ	1		
15:51	MA44379-CCV5	1		
15:55	MA44379-CCB6	1		
15:59	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:08	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:12	ZZZZZZ	1		
16:16	ZZZZZZ	1		
16:21	ZZZZZZ	1		
16:25	ZZZZZZ	1		
16:29	ZZZZZZ	1		
16:34	ZZZZZZ	1		
16:38	MA44379-CCV6	1		
16:42	MA44379-CCB7	1		
16:46	ZZZZZZ	1		
16:51	ZZZZZZ	1		
16:55	ZZZZZZ	1		
16:59	ZZZZZZ	1		
17:04	MP7055-MB1	1		
17:08	MP7055-B1	1		
17:12	MP7055-S1	1		
17:16	MP7055-S2	1		
17:20	JC65355-3	1		
17:24	MA44379-CCV7	1		
17:28	MA44379-CCB8	1		
17:33	MP7055-SD1	5		
17:37	MP7055-S3	1		
17:41	MP7055-S4	1		
17:45	JC65355-3F	1		
17:49	MP7055-SD2	5		
17:54	JC65355-4	1		
17:58	JC65355-7	1		
18:02	JC65355-4F	1		
18:07	JC65355-7F	1		
----->	Last reportable sample/prep for job JC65355			
18:11	ZZZZZZ	1		
18:15	MA44379-CCV8	1		
18:19	MA44379-CCB9	1		
18:24	MP7058-B1	1		
18:28	MP7058-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:32	MP7058-S1	1		
18:36	MP7058-S2	1		
18:40	JC65523-1F	1		(sample used for QC only; not part of login JC65355)
18:44	MP7058-SD1	5		
18:49	ZZZZZZ	1		
18:53	ZZZZZZ	1		
18:57	MA44379-CCV9	1		
19:02	MA44379-CCB10	1		
19:06	MA44379-CRI2	1		
19:10	MA44379-CRID2	1		
19:15	MA44379-ICSA2	1		
19:19	MA44379-ICSAB2	1		
19:23	MA44379-CCV10	1		
19:27	MA44379-CCB11	1		
----->	Last reportable CCB for job JC65355			
19:31	ZZZZZZ	1		
19:36	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:44	ZZZZZZ	1		
19:49	ZZZZZZ	1		
19:53	ZZZZZZ	1		
19:57	ZZZZZZ	1		
20:02	ZZZZZZ	1		
20:06	ZZZZZZ	1		
20:10	ZZZZZZ	1		
20:15	MA44379-CCV11	1		
20:19	MA44379-CCB12	1		
20:23	ZZZZZZ	1		
20:28	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:36	ZZZZZZ	1		
20:40	ZZZZZZ	1		
20:45	ZZZZZZ	1		
20:49	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:54	ZZZZZZ	1		
20:58	ZZZZZZ	1		
21:02	MA44379-CCV12	1		
21:06	MA44379-CCB13	1		
21:11	ZZZZZZ	1		
21:15	ZZZZZZ	1		
21:19	ZZZZZZ	1		
21:24	ZZZZZZ	1		
21:28	ZZZZZZ	1		
21:32	MP7062-MB1	1		
21:37	MP7062-B1	1		
21:41	MP7062-S1	1		high rsd
21:45	MP7062-S2	1		high rsd
21:49	MA44379-CCV13	1		
21:53	MA44379-CCB14	1		
21:57	JC65531-1	1		(sample used for QC only; not part of login JC65355)
22:02	MP7062-SD1	5		high rsd
22:06	ZZZZZZ	1		
22:10	ZZZZZZ	1		
22:14	ZZZZZZ	1		
22:19	ZZZZZZ	1		
22:23	ZZZZZZ	1		
22:27	ZZZZZZ	1		
22:32	ZZZZZZ	1		
22:36	MA44379-CCV14	1		
22:40	MA44379-CCB15	1		
22:44	ZZZZZZ	1		
22:49	ZZZZZZ	1		
22:53	ZZZZZZ	1		
22:57	ZZZZZZ	1		
23:02	ZZZZZZ	1		
23:06	ZZZZZZ	1		
23:10	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:14	ZZZZZZ	1		
23:19	ZZZZZZ	1		
23:23	MA44379-CCV15	1		
23:27	MA44379-CCB16	1		
23:32	MA44379-CRI3	1		
23:36	MA44379-CRID3	1		
23:40	MA44379-CCV16	1		
23:44	MA44379-CCB17	1		
23:49	ZZZZZZ	1		
23:53	ZZZZZZ	1		
23:57	ZZZZZZ	1		
00:01	MP7036-MB1	1		
00:06	MP7036-B1	1		
00:10	MP7036-S1	10		CR high
00:14	MP7036-S2	10		CR high
00:18	JC65257-3	10		(sample used for QC only; not part of login JC65355)
00:23	MP7036-SD1	50		CR high
00:27	MA44379-CCV17	1		
00:31	MA44379-CCB18	1		
00:35	MP7036-S3	10		CR high
00:40	MP7036-S4	10		CR high
00:44	JC65257-3F	10		(sample used for QC only; not part of login JC65355)
00:48	MP7036-SD2	50		CR high
00:52	ZZZZZZ	1		
00:57	ZZZZZZ	1		
01:01	ZZZZZZ	1		
01:05	ZZZZZZ	1		
01:10	ZZZZZZ	1		
01:14	MA44379-CCV18	1		
01:18	MA44379-CCB19	1		
01:23	ZZZZZZ	1		
01:27	ZZZZZZ	1		
01:31	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As,Ba,Be,B,Cr,Cu,Fe,Pb,Mn,Ni,Se,Tl,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
01:36	ZZZZZZ	1		
01:40	ZZZZZZ	1		
01:45	ZZZZZZ	1		
01:49	ZZZZZZ	1		
01:53	ZZZZZZ	1		
01:58	ZZZZZZ	1		
02:02	MA44379-CCV19	1		
02:06	MA44379-CCB20	1		
02:10	ZZZZZZ	1		
02:15	ZZZZZZ	1		
02:19	ZZZZZZ	1		
02:24	ZZZZZZ	1		
02:28	MP7056-MB1	1		
02:32	MP7056-B1	1		
02:36	MP7056-S1	1		CR high
02:40	MP7056-S2	1		CR high
02:44	JC65417-2	1		(sample used for QC only; not part of login JC65355)
02:49	MA44379-CCV20	1		
02:53	MA44379-CCB21	1		
02:57	MP7056-SD1	5		CR high
03:02	MP7056-S3	1		CR high
03:06	MP7056-S4	1		CR high
03:10	JC65417-2F	1		(sample used for QC only; not part of login JC65355)
03:14	MP7056-SD2	5		CR high
03:18	ZZZZZZ	1		
03:23	ZZZZZZ	1		
03:27	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:36	MA44379-CCV21	1		
03:40	MA44379-CCB22	1		
03:44	ZZZZZZ	1		
03:48	ZZZZZZ	1		
03:53	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:57	ZZZZZZ	1		
04:02	ZZZZZZ	1		
04:06	ZZZZZZ	1		
04:10	ZZZZZZ	1		
04:15	ZZZZZZ	1		
04:19	ZZZZZZ	1		
04:23	MA44379-CCV22	1		
04:28	MA44379-CCB23	1		
04:32	ZZZZZZ	1		
04:36	ZZZZZZ	1		
04:41	ZZZZZZ	1		
04:45	MA44379-CCV23	1		
04:49	MA44379-CCB24	1		
04:53	MA44379-CRI4	1		
04:58	MA44379-CRID4	1		
05:02	MA44379-CCV24	1		
05:06	MA44379-CCB25	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP

Date Analyzed: 05/10/18

Methods: SW846 6010C

Analyst: ND

Run ID: MA44379

Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:15	MA44379-STD1	4163 R	105880 R	7776 R	9952 R
11:20	MA44379-STD2	3933	99274	7680	8483
11:24	ZZZZZZ	4047	102420	7746	8868
11:28	ZZZZZZ	4213	106740	7771	10050
11:34	MA44379-ICV1	4078	102010	7701	8937
11:45	MA44379-ICB1	4235	107250	7812	10081
11:52	MA44379-ICCV1	4098	102460	7690	8938
12:01	MA44379-CCB1	4245	107300	7820	10083
12:06	MA44379-CRI1	4188	105590	7751	9774
12:10	MA44379-CRID1	4228	106950	7830	9996
12:15	MA44379-ICSA1	3756	94121	7489	7743
12:19	MA44379-ICSAB1	3751	93956	7466	7744
12:23	MA44379-HSTD1	4184	105540	7889	9729
12:27	MA44379-HSTD2	3822	96117	7557	7905
12:31	ZZZZZZ	4187	105170	7808	9913
12:36	ZZZZZZ	4164	106890	7867	10054
12:40	ZZZZZZ	4240	106750	7824	10099
12:44	MA44379-CCV1	4072	102110	7700	8911
12:48	MA44379-CCB2	4218	106860	7773	10057
12:53	MP7063-MB1	4177	105930	7889	9952
12:57	MP7063-B1	4056	101820	7718	9041
13:01	MP7063-S1	4023	101030	7619	9012
13:05	MP7063-S2	4025	100690	7549	9018
13:09	JC65645-1	4157	103910	7647	9848
13:14	MP7063-SD1	4227	106510	7913	10070
13:18	ZZZZZZ	3656	92829	7428	7709
13:22	ZZZZZZ	3925	100200	7747	8714
13:26	ZZZZZZ	4162	105150	7805	9529
13:31	MA44379-CCV2	4068	101640	7683	8872
13:35	MA44379-CCB3	4239	106930	7806	10043
13:39	ZZZZZZ	4213	106980	7738	9993
13:44	ZZZZZZ	4221	106990	7729	10044
13:48	ZZZZZZ	4221	106410	7762	9912

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP

Date Analyzed: 05/10/18

Methods: SW846 6010C

Analyst: ND

Run ID: MA44379

Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:52	ZZZZZZ	4234	106330	7749	10009
13:57	ZZZZZZ	4224	107320	7778	10021
14:01	ZZZZZZ	4121	103170	7758	9143
14:05	MP7033-S1	3936	100240	7638	8646
14:09	MP7033-S2	3936	100180	7689	8650
14:13	JC65225-4	3927	100510	7701	8846
14:17	MA44379-CCV3	4061	101730	7700	8860
14:22	MA44379-CCB4	4209	106170	7773	10003
14:26	MP7033-SD1	4123	104070	7766	9599
14:30	ZZZZZZ	3913	100390	7711	8829
14:34	MP7047-MB1	4200	106330	7816	9989
14:39	MP7047-MB2	4196	106370	7825	9995
14:43	MP7047-B1	4084	103140	7771	9106
14:47	MP7047-B2	4082	103000	7841	9107
14:51	MP7047-B3	4063	102760	7812	9059
14:55	MP7047-S1	4022	102100	7813	8897
14:59	MP7047-S2	4034	101910	7785	8918
15:03	MA44379-CCV4	4036	100930	7660	8805
15:07	MA44379-CCB5	4184	105400	7745	9947
15:12	JC65732-2F	4082	103800	7825	9479
15:16	MP7047-SD1	4161	105290	7778	9860
15:20	ZZZZZZ	4167	105480	7857	9950
15:25	ZZZZZZ	4174	105810	7835	9955
15:29	ZZZZZZ	4004	102360	7708	9112
15:33	ZZZZZZ	4059	103220	7724	9323
15:38	ZZZZZZ	4010	102840	7748	9160
15:42	ZZZZZZ	3853	98515	7652	8387
15:47	ZZZZZZ	3875	98443	7632	8362
15:51	MA44379-CCV5	3980	100730	7638	8719
15:55	MA44379-CCB6	4149	105300	7716	9894
15:59	ZZZZZZ	3969	101370	7716	8998
16:03	ZZZZZZ	4134	105700	7788	9886
16:08	ZZZZZZ	3777	97083	7604	8247

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NYFile ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:12	ZZZZZZ	4115	104820	7775	9727
16:16	ZZZZZZ	4090	104140	7750	9413
16:21	ZZZZZZ	4137	105530	7762	9862
16:25	ZZZZZZ	4067	103910	7743	9524
16:29	ZZZZZZ	4117	105090	7741	9634
16:34	ZZZZZZ	4079	104600	7736	9549
16:38	MA44379-CCV6	4004	100480	7609	8755
16:42	MA44379-CCB7	4147	105190	7691	9886
16:46	ZZZZZZ	4044	103170	7704	9356
16:51	ZZZZZZ	3923	100130	7615	8631
16:55	ZZZZZZ	3901	99369	7627	8554
16:59	ZZZZZZ	3854	98136	7586	8368
17:04	MP7055-MB1	4138	106030	7721	9872
17:08	MP7055-B1	4033	102260	7732	8990
17:12	MP7055-S1	3950	100750	7671	8667
17:16	MP7055-S2	3948	100800	7644	8661
17:20	JC65355-3	3975	102460	7696	9129
17:24	MA44379-CCV7	3999	100800	7559	8749
17:28	MA44379-CCB8	4143	105260	7633	9868
17:33	MP7055-SD1	4091	104250	7667	9651
17:37	MP7055-S3	3941	100820	7612	8628
17:41	MP7055-S4	3928	100320	7633	8611
17:45	JC65355-3F	3971	102480	7613	9108
17:49	MP7055-SD2	4103	104410	7631	9675
17:54	JC65355-4	3978	102380	7632	9119
17:58	JC65355-7	3945	101820	7623	9042
18:02	JC65355-4F	3976	102520	7639	9126
18:07	JC65355-7F	3952	101850	7639	9059
18:11	ZZZZZZ	4048	103630	7701	9344
18:15	MA44379-CCV8	3991	100850	7562	8716
18:19	MA44379-CCB9	4150	105800	7621	9858
18:24	MP7058-B1	4014	101960	7591	8944
18:28	MP7058-MB1	4127	105440	7679	9840

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NYFile ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
18:32	MP7058-S1	3923	99857	7583	8516
18:36	MP7058-S2	3922	99907	7568	8518
18:40	JC65523-1F	3917	100640	7572	8876
18:44	MP7058-SD1	4091	104250	7645	9573
18:49	ZZZZZZ	3674	94820	7354	7822
18:53	ZZZZZZ	4018	102510	7608	9144
18:57	MA44379-CCV9	4002	100800	7510	8741
19:02	MA44379-CCB10	4156	105640	7600	9892
19:06	MA44379-CRI2	4090	104450	7577	9574
19:10	MA44379-CRID2	4133	105530	7598	9803
19:15	MA44379-ICSA2	3668	92942	7249	7560
19:19	MA44379-ICSAB2	3667	92819	7273	7566
19:23	MA44379-CCV10	3992	101000	7485	8721
19:27	MA44379-CCB11	4144	105650	7590	9871
19:31	ZZZZZZ	4167	106050	7572	9881
19:36	ZZZZZZ	4146	105150	7565	9831
19:40	ZZZZZZ	4136	105300	7554	9812
19:44	ZZZZZZ	4138	105560	7600	9859
19:49	ZZZZZZ	4148	105560	7556	9828
19:53	ZZZZZZ	4175	105910	7592	9941
19:57	ZZZZZZ	4271	100370	7784	8656
20:02	ZZZZZZ	3766	97038	7260	8296
20:06	ZZZZZZ	4160	106280	7570	9923
20:10	ZZZZZZ	4144	106270	7565	9841
20:15	MA44379-CCV11	4010	101330	7436	8754
20:19	MA44379-CCB12	4111	105770	7541	9801
20:23	ZZZZZZ	3783	97964	7331	8416
20:28	ZZZZZZ	3916	100750	7390	8831
20:32	ZZZZZZ	3878	100370	7405	8743
20:36	ZZZZZZ	3880	99342	7424	8486
20:40	ZZZZZZ	4090	104990	7527	9756
20:45	ZZZZZZ	3649	94534	7284	7788
20:49	ZZZZZZ	3969	101760	7450	9102

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NYFile ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:54	ZZZZZZ	3792	97888	7345	8450
20:58	ZZZZZZ	3927	100630	7439	8884
21:02	MA44379-CCV12	3966	100720	7372	8673
21:06	MA44379-CCB13	4125	105210	7495	9826
21:11	ZZZZZZ	3871	100130	7388	8735
21:15	ZZZZZZ	3810	98415	7333	8512
21:19	ZZZZZZ	4097	105070	7496	9779
21:24	ZZZZZZ	4111	105640	7554	9814
21:28	ZZZZZZ	4111	105420	7523	9805
21:32	MP7062-MB1	4104	105270	7527	9789
21:37	MP7062-B1	3999	101730	7464	8908
21:41	MP7062-S1	3884	99506	7393	8451
21:45	MP7062-S2	3890	99757	7385	8474
21:49	MA44379-CCV13	3970	100780	7416	8688
21:53	MA44379-CCB14	4122	105650	7445	9824
21:57	JC65531-1	3922	101050	7376	8830
22:02	MP7062-SD1	4048	103930	7473	9480
22:06	ZZZZZZ	3993	102140	7473	9012
22:10	ZZZZZZ	3681	96313	7270	8229
22:14	ZZZZZZ	3821	99455	7346	8579
22:19	ZZZZZZ	3911	100960	7406	8922
22:23	ZZZZZZ	3924	101510	7420	8927
22:27	ZZZZZZ	4104	105330	7485	9804
22:32	ZZZZZZ	3892	100310	7351	8767
22:36	MA44379-CCV14	3975	100640	7388	8690
22:40	MA44379-CCB15	4119	105400	7404	9823
22:44	ZZZZZZ	3963	101940	7399	9043
22:49	ZZZZZZ	3675	96327	7205	8233
22:53	ZZZZZZ	3853	99829	7310	8677
22:57	ZZZZZZ	3914	101200	7346	8943
23:02	ZZZZZZ	3934	101040	7376	8966
23:06	ZZZZZZ	3838	99043	7346	8268
23:10	ZZZZZZ	4105	105230	7411	9800

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NYFile ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:14	ZZZZZZ	3646	94529	7157	7802
23:19	ZZZZZZ	4110	105500	7450	9809
23:23	MA44379-CCV15	3978	100600	7325	8693
23:27	MA44379-CCB16	4125	105900	7366	9828
23:32	MA44379-CRI3	4073	104150	7313	9527
23:36	MA44379-CRID3	4104	104850	7319	9729
23:40	MA44379-CCV16	3986	100890	7272	8708
23:44	MA44379-CCB17	4139	105780	7385	9848
23:49	ZZZZZZ	3960	101500	7442	8937
23:53	ZZZZZZ	3870	100700	7438	8748
23:57	ZZZZZZ	3976	103100	7518	9138
00:01	MP7036-MB1	4145	105560	7582	9913
00:06	MP7036-B1	3999	102070	7551	8931
00:10	MP7036-S1	No results reported for the elements associated with this internal standard.			
00:14	MP7036-S2	No results reported for the elements associated with this internal standard.			
00:18	JC65257-3	No results reported for the elements associated with this internal standard.			
00:23	MP7036-SD1	No results reported for the elements associated with this internal standard.			
00:27	MA44379-CCV17	3906	99931	7497	8617
00:31	MA44379-CCB18	4060	104510	7603	9761
00:35	MP7036-S3	No results reported for the elements associated with this internal standard.			
00:40	MP7036-S4	No results reported for the elements associated with this internal standard.			
00:44	JC65257-3F	No results reported for the elements associated with this internal standard.			
00:48	MP7036-SD2	No results reported for the elements associated with this internal standard.			
00:52	ZZZZZZ	3313	96655	7450	8284
00:57	ZZZZZZ	3735	97631	7428	8395
01:01	ZZZZZZ	3460	97260	7459	8222
01:05	ZZZZZZ	3487	98684	7452	8529
01:10	ZZZZZZ	3765	99810	7521	8628
01:14	MA44379-CCV18	3864	99621	7494	8560
01:18	MA44379-CCB19	4009	104110	7543	9691
01:23	ZZZZZZ	3174	84481	7044	6726 !
01:27	ZZZZZZ	3473	95939	7368	8156
01:31	ZZZZZZ	3340	87459	7172	6990

INTERNAL STANDARD SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP

Date Analyzed: 05/10/18

Methods: SW846 6010C

Analyst: ND

Run ID: MA44379

Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
01:36	ZZZZZZ	No results reported for the elements associated with this internal standard.			
01:40	ZZZZZZ	3289	96549	7358	8243
01:45	ZZZZZZ	3695	97179	7394	8328
01:49	ZZZZZZ	3423	96901	7412	8156
01:53	ZZZZZZ	3477	98804	7450	8531
01:58	ZZZZZZ	3728	99349	7484	8578
02:02	MA44379-CCV19	3823	99170	7429	8502
02:06	MA44379-CCB20	3996	103970	7481	9687
02:10	ZZZZZZ	3199	84227	7046	6703 !
02:15	ZZZZZZ	3471	94918	7237	8142
02:19	ZZZZZZ	3327	87260	7086	6976
02:24	ZZZZZZ	3436	97221	7367	8337
02:28	MP7056-MB1	3963	103820	7524	9626
02:32	MP7056-B1	3854	100710	7492	8735
02:36	MP7056-S1	3690	99813	7510	8375
02:40	MP7056-S2	3709	98860	7483	8418
02:44	JC65417-2	3717	101430	7550	8778
02:49	MA44379-CCV20	3829	99301	7356	8506
02:53	MA44379-CCB21	3992	104000	7403	9688
02:57	MP7056-SD1	3908	102980	7465	9356
03:02	MP7056-S3	3668	100110	7472	8363
03:06	MP7056-S4	3669	99860	7438	8368
03:10	JC65417-2F	3668	100750	7466	8687
03:14	MP7056-SD2	3917	103260	7422	9379
03:18	ZZZZZZ	3540	92654	7254	7619
03:23	ZZZZZZ	3118	83185	6855	6580 !
03:27	ZZZZZZ	3452	91284	7059	7484
03:31	ZZZZZZ	3435	90999	7126	7428
03:36	MA44379-CCV21	3858	100070	7309	8575
03:40	MA44379-CCB22	3997	104490	7401	9687
03:44	ZZZZZZ	3527	96421	7267	8125
03:48	ZZZZZZ	3494	92627	7100	7554
03:53	ZZZZZZ	3755	98943	7348	8663

INTERNAL STANDARD SUMMARY

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
Analyst: ND Run ID: MA44379
Parameters: As, Ba, Be, B, Cr, Cu, Fe, Pb, Mn, Ni, Se, Tl, Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
03:57	ZZZZZZ	3939	104250	7418	9564
04:02	ZZZZZZ	3540	92307	7181	7610
04:06	ZZZZZZ	3097	82814	6770	6541 !
04:10	ZZZZZZ	3438	90845	7067	7477
04:15	ZZZZZZ	3442	91102	7049	7485
04:19	ZZZZZZ	3531	96125	7201	8143
04:23	MA44379-CCV22	3820	99152	7221	8525
04:28	MA44379-CCB23	3969	103740	7346	9653
04:32	ZZZZZZ	3464	91738	7050	7469
04:36	ZZZZZZ	3748	99331	7324	8655
04:41	ZZZZZZ	3944	103860	7397	9601
04:45	MA44379-CCV23	3819	99519	7128	8521
04:49	MA44379-CCB24	3969	103970	7332	9641
04:53	MA44379-CRI4	3926	102950	7319	9372
04:58	MA44379-CRID4	3963	103920	7288	9578
05:02	MA44379-CCV24	3826	99271	7243	8528
05:06	MA44379-CCB25	3974	104110	7361	9651

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA44379 Units: ug/l

Time: Sample ID:			11:45 ICB1		12:01 CCB1		12:48 CCB2		13:35 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	34	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.4	0.100	<3.0	0.400	<3.0	-0.200	<3.0	-0.700	<3.0
Barium	200	.5	0.00	<200	-0.100	<200	-0.200	<200	0.00	<200
Beryllium	1.0	.2	0.00	<1.0	0.100	<1.0	0.100	<1.0	0.00	<1.0
Bismuth	20	2.5								
Boron	100	1.9	-1.40	<100	-0.300	<100	-1.10	<100	-1.10	<100
Cadmium	3.0	.3	anr							
Calcium	5000	8.7	anr							
Chromium	10	.6	-0.200	<10	-0.300	<10	-0.100	<10	-0.100	<10
Cobalt	50	.5	anr							
Copper	10	1.2	-0.200	<10	-0.200	<10	-0.200	<10	-0.300	<10
Iron	100	4.6	2.10	<100	-8.90	<100	3.70	<100	-3.30	<100
Lead	3.0	1.4	0.700	<3.0	-0.100	<3.0	0.800	<3.0	1.40	<3.0
Lithium	50	2.8								
Magnesium	5000	33	anr							
Manganese	15	.1	0.00	<15	0.00	<15	0.100	<15	0.00	<15
Molybdenum	20	.4								
Nickel	10	.5	-0.200	<10	0.100	<10	-0.100	<10	0.100	<10
Phosphorus	50	1.7								
Potassium	10000	68	anr							
Selenium	10	3.8	-1.20	<10	1.90	<10	-0.300	<10	-0.500	<10
Silicon	200	2.1								
Silver	10	.5	anr							
Sodium	10000	15	anr							
Strontium	10	.2								
Sulfur	50	20								
Thallium	2.0	1.6	-0.800	<2.0	-0.500	<2.0	0.400	<2.0	-1.30	<2.0
Tin	10	1								
Titanium	10	.7								
Tungsten	50	1.8								
Vanadium	50	.4	anr							
Zinc	20	.3	-1.30	<20	-1.10	<20	-1.20	<20	-0.500	<20

8.2.2
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BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA44379 Units: ug/l

Time:		11:45		12:01		12:48		13:35		
Sample ID:		ICB1		CCB1		CCB2		CCB3		
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium 10 .3

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA44379 Units: ug/l

Time: Sample ID:	RL	IDL	14:22 CCB4 raw	final	15:07 CCB5 raw	final	15:55 CCB6 raw	final	16:42 CCB7 raw	final
Metal										
Aluminum	200	34	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.4	0.500	<3.0	-0.500	<3.0	0.00	<3.0	0.700	<3.0
Barium	200	.5	0.200	<200	-0.200	<200	-0.100	<200	0.200	<200
Beryllium	1.0	.2	0.00	<1.0	0.100	<1.0	0.100	<1.0	0.100	<1.0
Bismuth	20	2.5								
Boron	100	1.9	-1.00	<100	0.00	<100	3.90	<100	-0.100	<100
Cadmium	3.0	.3	anr							
Calcium	5000	8.7	anr							
Chromium	10	.6	0.00	<10	0.00	<10	0.00	<10	-0.200	<10
Cobalt	50	.5	anr							
Copper	10	1.2	-0.400	<10	-0.100	<10	0.00	<10	-0.300	<10
Iron	100	4.6	-6.10	<100	-0.800	<100	2.10	<100	6.80	<100
Lead	3.0	1.4	0.400	<3.0	1.10	<3.0	0.500	<3.0	1.50	<3.0
Lithium	50	2.8								
Magnesium	5000	33	anr							
Manganese	15	.1	0.00	<15	0.00	<15	0.100	<15	0.100	<15
Molybdenum	20	.4								
Nickel	10	.5	0.100	<10	0.00	<10	0.100	<10	0.200	<10
Phosphorus	50	1.7								
Potassium	10000	68	anr							
Selenium	10	3.8	0.900	<10	-0.600	<10	-0.700	<10	0.100	<10
Silicon	200	2.1								
Silver	10	.5	anr							
Sodium	10000	15	anr							
Strontium	10	.2								
Sulfur	50	20								
Thallium	2.0	1.6	-0.200	<2.0	-0.300	<2.0	-1.10	<2.0	-1.30	<2.0
Tin	10	1								
Titanium	10	.7								
Tungsten	50	1.8								
Vanadium	50	.4	anr							
Zinc	20	.3	-0.500	<20	-0.400	<20	-0.300	<20	-0.500	<20

8.2.2
8

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA44379 Units: ug/l

Time:		14:22		15:07		15:55		16:42		
Sample ID:		CCB4		CCB5		CCB6		CCB7		
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium 10 .3

(*) Outside of QC limits
(anr) Analyte not requested



BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA44379 Units: ug/l

Time: Sample ID:			17:28 CCB8		18:19 CCB9		19:02 CCB10		19:27 CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	34	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.4	-0.300	<3.0	0.100	<3.0	0.300	<3.0	-0.100	<3.0
Barium	200	.5	-0.200	<200	0.300	<200	0.200	<200	-0.100	<200
Beryllium	1.0	.2	0.00	<1.0	-0.200	<1.0	0.100	<1.0	-0.200	<1.0
Bismuth	20	2.5								
Boron	100	1.9	0.100	<100	-0.900	<100	-0.900	<100	-0.700	<100
Cadmium	3.0	.3	anr							
Calcium	5000	8.7	anr							
Chromium	10	.6	-0.300	<10	0.00	<10	-0.100	<10	-0.200	<10
Cobalt	50	.5	anr							
Copper	10	1.2	-0.200	<10	-0.300	<10	-0.200	<10	-0.200	<10
Iron	100	4.6	-2.70	<100	-4.60	<100	-0.700	<100	-4.80	<100
Lead	3.0	1.4	1.00	<3.0	2.00	<3.0	0.900	<3.0	0.800	<3.0
Lithium	50	2.8								
Magnesium	5000	33	anr							
Manganese	15	.1	0.00	<15	0.100	<15	0.100	<15	0.00	<15
Molybdenum	20	.4								
Nickel	10	.5	-0.200	<10	0.200	<10	0.100	<10	0.200	<10
Phosphorus	50	1.7								
Potassium	10000	68	anr							
Selenium	10	3.8	1.70	<10	1.40	<10	-0.500	<10	0.200	<10
Silicon	200	2.1								
Silver	10	.5	anr							
Sodium	10000	15	anr							
Strontium	10	.2								
Sulfur	50	20								
Thallium	2.0	1.6	-0.600	<2.0	0.700	<2.0	-0.100	<2.0	-0.500	<2.0
Tin	10	1								
Titanium	10	.7								
Tungsten	50	1.8								
Vanadium	50	.4	anr							
Zinc	20	.3	-0.800	<20	-0.400	<20	-0.300	<20	-1.20	<20

8.2.2
8

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
 QC Limits: result < RL Run ID: MA44379 Units: ug/l

Time:		17:28		18:19		19:02		19:27		
Sample ID:		CCB8		CCB9		CCB10		CCB11		
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium 10 .3

(*) Outside of QC limits
 (anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: to % Recovery Run ID: MA44379 Units: ug/l

Time: Sample ID:	ICCV	11:52 ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	2000	1950	97.5
Barium	2000	2000	100.0
Beryllium	2000	2010	100.5
Bismuth			
Boron	2000	1990	99.5
Cadmium	anr		
Calcium	anr		
Chromium	2000	2000	100.0
Cobalt	anr		
Copper	2000	1930	96.5
Iron	40000	40600	101.5
Lead	2000	2020	101.0
Lithium			
Magnesium	anr		
Manganese	2000	2000	100.0
Molybdenum			
Nickel	2000	1990	99.5
Phosphorus			
Potassium	anr		
Selenium	2000	1960	98.0
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium	2000	2070	103.5
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	2000	2000	100.0

8.2.3
8

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: to % Recovery Run ID: MA44379 Units: ug/l

Time:	11:52
Sample ID:	ICCV ICCV1
Metal	True Results % Rec

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time: Sample ID:	ICV	11:34 ICV1		CCV	12:44 CCV1		CCV	13:31 CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	2000	2000	100.0	2000	1970	98.5	2000	1950	97.5
Barium	2000	2020	101.0	2000	2010	100.5	2000	2030	101.5
Beryllium	2000	2060	103.0	2000	2000	100.0	2000	2000	100.0
Bismuth									
Boron	2000	2040	102.0	2000	2010	100.5	2000	1990	99.5
Cadmium	anr								
Calcium	anr								
Chromium	2000	1990	99.5	2000	2020	101.0	2000	2010	100.5
Cobalt	anr								
Copper	2000	1940	97.0	2000	1940	97.0	2000	1930	96.5
Iron	40000	39700	99.3	40000	40400	101.0	40000	40300	100.8
Lead	2000	2020	101.0	2000	2020	101.0	2000	2040	102.0
Lithium									
Magnesium	anr								
Manganese	2000	2030	101.5	2000	2020	101.0	2000	2000	100.0
Molybdenum									
Nickel	2000	1990	99.5	2000	2010	100.5	2000	2010	100.5
Phosphorus									
Potassium	anr								
Selenium	2000	2040	102.0	2000	1980	99.0	2000	1950	97.5
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	2000	2060	103.0	2000	2050	102.5	2000	2120	106.0
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2020	101.0	2000	2020	101.0	2000	1990	99.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time:		11:34			12:44			13:31		
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2		
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec	

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time: Sample ID:	CCV	14:17 CCV3	% Rec	CCV	15:03 CCV4	% Rec	CCV	15:51 CCV5	% Rec
Metal	True	Results		True	Results		True	Results	
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1970	98.5	2000	1980	99.0	2000	1990	99.5
Barium	2000	2040	102.0	2000	2040	102.0	2000	2050	102.5
Beryllium	2000	1990	99.5	2000	1980	99.0	2000	1980	99.0
Bismuth									
Boron	2000	2010	100.5	2000	2030	101.5	2000	2050	102.5
Cadmium	anr								
Calcium	anr								
Chromium	2000	2030	101.5	2000	2050	102.5	2000	2030	101.5
Cobalt	anr								
Copper	2000	1940	97.0	2000	1950	97.5	2000	1950	97.5
Iron	40000	40200	100.5	40000	39800	99.5	40000	39600	99.0
Lead	2000	2050	102.5	2000	2060	103.0	2000	2050	102.5
Lithium									
Magnesium	anr								
Manganese	2000	2010	100.5	2000	2020	101.0	2000	2010	100.5
Molybdenum									
Nickel	2000	2020	101.0	2000	2040	102.0	2000	2030	101.5
Phosphorus									
Potassium	anr								
Selenium	2000	1980	99.0	2000	1990	99.5	2000	2000	100.0
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	2000	2110	105.5	2000	2130	106.5	2000	2120	106.0
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2000	100.0	2000	2010	100.5	2000	2000	100.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time:		14:17			15:03			15:51		
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5		
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec	

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time: Sample ID:	CCV	16:38 CCV6	% Rec	CCV	17:24 CCV7	% Rec	CCV	18:15 CCV8	% Rec
Metal	True	Results		True	Results		True	Results	
Aluminum	anr								
Antimony	anr								
Arsenic	2000	1990	99.5	2000	1990	99.5	2000	1990	99.5
Barium	2000	2060	103.0	2000	2070	103.5	2000	2060	103.0
Beryllium	2000	1980	99.0	2000	1980	99.0	2000	1980	99.0
Bismuth									
Boron	2000	2030	101.5	2000	2030	101.5	2000	2030	101.5
Cadmium	anr								
Calcium	anr								
Chromium	2000	2040	102.0	2000	2030	101.5	2000	2030	101.5
Cobalt	anr								
Copper	2000	1950	97.5	2000	1950	97.5	2000	1940	97.0
Iron	40000	39400	98.5	40000	39200	98.0	40000	38900	97.3
Lead	2000	2060	103.0	2000	2060	103.0	2000	2070	103.5
Lithium									
Magnesium	anr								
Manganese	2000	2010	100.5	2000	2010	100.5	2000	2000	100.0
Molybdenum									
Nickel	2000	2030	101.5	2000	2030	101.5	2000	2040	102.0
Phosphorus									
Potassium	anr								
Selenium	2000	1990	99.5	2000	1990	99.5	2000	1990	99.5
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	2000	2140	107.0	2000	2140	107.0	2000	2170	108.5
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2000	100.0	2000	2000	100.0	2000	1990	99.5

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time: Sample ID:		18:57 CCV9		19:23 CCV10		
Metal	CCV True	Results	% Rec	CCV True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	2000	1990	99.5	2000	1990	99.5
Barium	2000	2080	104.0	2000	2080	104.0
Beryllium	2000	1980	99.0	2000	1970	98.5
Bismuth						
Boron	2000	2030	101.5	2000	2030	101.5
Cadmium	anr					
Calcium	anr					
Chromium	2000	2030	101.5	2000	2020	101.0
Cobalt	anr					
Copper	2000	1950	97.5	2000	1940	97.0
Iron	40000	38900	97.3	40000	38800	97.0
Lead	2000	2070	103.5	2000	2060	103.0
Lithium						
Magnesium	anr					
Manganese	2000	2000	100.0	2000	2000	100.0
Molybdenum						
Nickel	2000	2040	102.0	2000	2040	102.0
Phosphorus						
Potassium	anr					
Selenium	2000	1990	99.5	2000	1990	99.5
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Sulfur						
Thallium	2000	2160	108.0	2000	2160	108.0
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	2000	1990	99.5	2000	1980	99.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time:		18:57			19:23		
Sample ID:	CCV	CCV9		CCV	CCV10		
Metal	True	Results	% Rec	True	Results	% Rec	

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NYFile ID: SE051018M1.ICP
QC Limits: 90 to 110 % RecoveryDate Analyzed: 05/10/18
Run ID: MA44379Methods: SW846 6010C
Units: ug/l

Time: Sample ID:	HSTD	12:23 HSTD1	% Rec	HSTD	12:27 HSTD2	% Rec
Metal	True	Results		True	Results	
Aluminum						
Antimony	anr					
Arsenic	5000	4990	99.8			
Barium	5000	5180	103.6			
Beryllium	5000	5150	103.0			
Bismuth						
Boron	5000	5160	103.2			
Cadmium	anr					
Calcium						
Chromium	5000	5290	105.8			
Cobalt	anr					
Copper	5000	5150	103.0			
Iron				150000	149000	99.3
Lead	5000	5160	103.2			
Lithium						
Magnesium						
Manganese	5000	5230	104.6			
Molybdenum						
Nickel	5000	5090	101.8			
Phosphorus						
Potassium						
Selenium	5000	5090	101.8			
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	5000	5340	106.8			
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	5000	5310	106.2			

8.2.5

8

HIGH STANDARD CHECK SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
 QC Limits: 90 to 110 % Recovery Run ID: MA44379 Units: ug/l

Time:		12:23			12:27		
Sample ID:		HSTD	HSTD1	HSTD	HSTD2	HSTD	HSTD2
Metal	True	Results	% Rec	True	Results	% Rec	

Zirconium

(*) Outside of QC limits
 (anr) Analyte not requested

8.2.5

8

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
 QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA44379 Units: ug/l

Time: Sample ID:	CRI	CRIA	CRID	12:06 CRI1	% Rec	12:10 CRID1	% Rec	19:06 CRI2	% Rec
Metal	True	True	True	Results		Results		Results	
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	9.10	113.8	3.40	113.3	7.50	93.8
Barium	200		4.0	217	108.5	4.10	102.5	218	109.0
Beryllium	2.0		1.0	2.10	105.0	1.10	110.0	1.90	95.0
Bismuth	20								
Boron	100		10	107	107.0			105	105.0
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000	anr					
Chromium	10		2.0	10.8	108.0	2.10	105.0	10.2	102.0
Cobalt	50		3.0	anr					
Copper	10		2.0	10.6	106.0			9.20	92.0
Iron	100	500		120	120.0			100	100.0
Lead	3.0	20	2.5	3.80	126.7			3.20	106.7
Lithium	50								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	16.8	112.0	3.40	113.3	16.1	107.3
Molybdenum	20								
Nickel	10		4.0	10.5	105.0	4.30	107.5	10.4	104.0
Phosphorus	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	10.3	103.0	5.40	108.0	10.5	105.0
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Strontium	10								
Sulfur	50								
Thallium	10		2.0	11.5	115.0	1.90	95.0	11.9	119.0
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	22.3	111.5	10.3	103.0	20.1	100.5

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
 QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA44379 Units: ug/l

Time:					12:06			12:10			19:06	
Sample ID:	CRI	CRIA	CRID	CRI1				CRID1			CRI2	
Metal	True	True	True	Results	% Rec			Results	% Rec		Results	% Rec

Zirconium 10

(*) Outside of QC limits
 (anr) Analyte not requested

8.2.6

8

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
 QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA44379 Units: ug/l

Time: Sample ID:	CRI	CRIA	CRID	19:10 CRID2	% Rec
Metal	True	True	True	Results	
Aluminum	200	500	100	anr	
Antimony	6.0	20	3.0		
Arsenic	8.0	20	3.0	3.50	116.7
Barium	200		4.0	4.40	110.0
Beryllium	2.0		1.0	1.00	100.0
Bismuth	20				
Boron	100		10		
Cadmium	3.0		1.0	anr	
Calcium	5000	2000	1000	anr	
Chromium	10		2.0	2.00	100.0
Cobalt	50		3.0	anr	
Copper	10		2.0		
Iron	100	500			
Lead	3.0	20	2.5		
Lithium	50				
Magnesium	5000	2000	100	anr	
Manganese	15		3.0	3.10	103.3
Molybdenum	20				
Nickel	10		4.0	4.00	100.0
Phosphorus	50				
Potassium	5000		2000	anr	
Selenium	10	20	5.0	5.10	102.0
Silicon	200				
Silver	5.0		2.0		
Sodium	5000		1000	anr	
Strontium	10				
Sulfur	50				
Thallium	10		2.0	2.40	120.0
Tin	10				
Titanium	10				
Tungsten	50				
Vanadium	50		2.0	anr	
Zinc	20		10	9.50	95.0

8.2.6

8

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA44379 Units: ug/l

Time:					19:10
Sample ID:	CRI	CRIA	CRID	CRID2	
Metal	True	True	True	Results	% Rec

Zirconium 10

(*) Outside of QC limits
(anr) Analyte not requested

8.2.6

8

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA44379 Units: ug/l

Time: Sample ID:	ICSA True	ICSAB True	12:15 ICSA1 Results	% Rec	12:19 ICSAB1 Results	% Rec	19:15 ICSA2 Results	% Rec	19:19 ICSAB2 Results	% Rec
Metal										
Aluminum	500000	500000	523000	104.6	537000	107.4	527000	105.4	530000	106.0
Antimony		1000	-3.70		1040	104.0	-4.80		1010	101.0
Arsenic		1000	0.800		1070	107.0	0.800		1040	104.0
Barium		500	-0.100		531	106.2	0.300		530	106.0
Beryllium		500	0.00		516	103.2	0.300		491	98.2
Bismuth		500	-4.70		508	101.6	-4.90		497	99.4
Boron		500	-3.70		503	100.6	-4.60		491	98.2
Cadmium		1000	0.600		1050	105.0	0.700		1030	103.0
Calcium	400000	400000	408000	102.0	409000	102.3	398000	99.5	390000	97.5
Chromium		500	-2.20		504	100.8	-2.40		486	97.2
Cobalt		500	0.500		508	101.6	0.900		492	98.4
Copper		500	2.20		523	104.6	2.40		506	101.2
Iron	200000	200000	196000	98.0	200000	100.0	184000	92.0	184000	92.0
Lead		1000	-5.80		1010	101.0	-1.40		994	99.4
Lithium		500	0.800		536	107.2	0.00		534	106.8
Magnesium	500000	500000	513000	102.6	518000	103.6	485000	97.0	480000	96.0
Manganese		500	-2.90		513	102.6	-4.50		490	98.0
Molybdenum		500	-2.20		492	98.4	-2.20		481	96.2
Nickel		1000	-1.60		1020	102.0	-0.600		999	99.9
Phosphorus		500	2.30		513	102.6	8.00		506	101.2
Potassium			-427		-463		-457		-444	
Selenium		1000	7.50		1050	105.0	-3.40		973	97.3
Silicon		500	-5.80		501	100.2	-5.20		482	96.4
Silver		1000	-0.100		1090	109.0	-5.50		1070	107.0
Sodium			42.3		64.3		70.5		96.2	
Strontium		500	4.70		541	108.2	4.90		529	105.8
Sulfur		500	-16.6		488	97.6	-16.1		484	96.8
Thallium		1000	0.00		1040	104.0	-2.10		1020	102.0
Tin		500	-5.60		467	93.4	-4.60		449	89.8
Titanium		500	-0.500		512	102.4	-0.700		500	100.0
Tungsten		500	9.20		492	98.4	6.80		481	96.2
Vanadium		500	-0.700		512	102.4	-0.900		504	100.8
Zinc		1000	0.700		989	98.9	0.00		933	93.3

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: SE051018M1.ICP Date Analyzed: 05/10/18 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA44379 Units: ug/l

Time:				12:15			12:19			19:15			19:19
Sample ID:	ICSAB	ICSAB	ICSAB	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Metal	True	True	True										

Zirconium	500	-1.10		476	95.2	-2.00		472	94.4
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(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP6973
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 05/04/18

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.016	.13	0.026	<0.20

Associated samples MP6973: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP6973
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 05/04/18

Metal	JC65355-3		Spike lot		QC
	Original	MS	HGPW3	% Rec	
Mercury	0.0	2.0	2	100.0	75-125

Associated samples MP6973: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP6973
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 05/04/18

Metal	JC65355-3 Original MSD	Spikelet HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	1.9	2	95.0	5.1 20

Associated samples MP6973: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP6973
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 05/04/18

Metal	JC65355-3F Original MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.026 1.9	2	93.7	75-125

Associated samples MP6973: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP6973
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 05/04/18

Metal	JC65355-3F Original MSD		Spike lot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.026	1.9	2	93.7	0.0	20

Associated samples MP6973: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP6973
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 05/04/18

Metal	BSP Result	Spike lot HGPW3	% Rec	QC Limits
Mercury	1.9	2	95.0	80-120

Associated samples MP6973: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/10/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	34	33		
Antimony	6.0	1.4	4.3		
Arsenic	3.0	1.4	2.7	-0.60	<3.0
Barium	200	.5	1.3	-0.20	<200
Beryllium	1.0	.2	.4	-0.10	<1.0
Bismuth	20	2.5	5		
Boron	100	1.9	13	-1.2	<100
Cadmium	3.0	.3	.7		
Calcium	5000	8.7	29		
Chromium	10	.6	.85	-0.30	<10
Cobalt	50	.5	.72		
Copper	10	1.2	3.2	0.20	<10
Iron	100	4.6	32	0.50	<100
Lead	3.0	1.4	2.6	0.80	<3.0
Lithium	50	2.8	15		
Magnesium	5000	33	64		
Manganese	15	.1	.42	0.0	<15
Molybdenum	20	.4	1.4		
Nickel	10	.5	1.3	-0.30	<10
Phosphorus	50	1.7	13		
Potassium	10000	68	230		
Selenium	10	3.8	6.6	-0.90	<10
Silicon	200	2.1	45		
Silver	10	.5	3.1		
Sodium	10000	15	130		
Strontium	10	.2	.3		
Sulfur	50	20	15		
Thallium	2.0	1.6	1.6	-1.1	<2.0
Tin	10	1	2.4		
Titanium	10	.7	1.8		
Tungsten	50	1.8	14		
Vanadium	50	.4	1.3		
Zinc	20	.3	4	-0.80	<20

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/10/18

Metal	RL	IDL	MDL	MB raw	final
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Zirconium 10 .3 2

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.4.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3 Original MS		Spikelet MPSPK2	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	0.0	2020	2000	101.0	75-125
Barium	127	2160	2000	101.7	75-125
Beryllium	0.0	1960	2000	98.0	75-125
Bismuth					
Boron	70.3	2070	2000	100.0	75-125
Cadmium	anr				
Calcium					
Chromium	0.0	1980	2000	99.0	75-125
Cobalt					
Copper	2.4	1940	2000	96.9	75-125
Iron	25.0	24400	25000	97.5	75-125
Lead	0.0	2010	2000	100.5	75-125
Lithium					
Magnesium					
Manganese	294	2260	2000	98.3	75-125
Molybdenum					
Nickel	3.4	1990	2000	99.3	75-125
Phosphorus					
Potassium					
Selenium	0.0	1960	2000	98.0	75-125
Silicon					
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium	0.0	2100	2000	105.0	75-125
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	1.6	1940	2000	96.9	75-125

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3 Original MS	Spike lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

8.4.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3 Original	MSD	Spikelet MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	0.0	2010	2000	100.5	0.5	20
Barium	127	2190	2000	103.2	1.4	20
Beryllium	0.0	1990	2000	99.5	1.5	20
Bismuth						
Boron	70.3	2090	2000	101.0	1.0	20
Cadmium	anr					
Calcium						
Chromium	0.0	2010	2000	100.5	1.5	20
Cobalt						
Copper	2.4	1960	2000	97.9	1.0	20
Iron	25.0	24400	25000	97.5	0.0	20
Lead	0.0	2040	2000	102.0	1.5	20
Lithium						
Magnesium						
Manganese	294	2280	2000	99.3	0.9	20
Molybdenum						
Nickel	3.4	2020	2000	100.8	1.5	20
Phosphorus						
Potassium						
Selenium	0.0	1980	2000	99.0	1.0	20
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	0.0	2130	2000	106.5	1.4	20
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	1.6	1960	2000	97.9	1.0	20

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3 Original MSD	Spikelet MPSPK2	% Rec	MSD RPD	QC Limit
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Zirconium

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

8.4.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3F Original MS		Spikelet MPSPK2	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	0.0	1920	2000	96.0	75-125
Barium	127	2200	2000	103.7	75-125
Beryllium	0.0	2000	2000	100.0	75-125
Bismuth					
Boron	72.6	2100	2000	101.4	75-125
Cadmium	anr				
Calcium					
Chromium	0.0	2010	2000	100.5	75-125
Cobalt					
Copper	1.8	1980	2000	98.9	75-125
Iron	6.7	24400	25000	97.6	75-125
Lead	0.0	2060	2000	103.0	75-125
Lithium					
Magnesium					
Manganese	302	2290	2000	99.4	75-125
Molybdenum					
Nickel	3.6	2030	2000	101.3	75-125
Phosphorus					
Potassium					
Selenium	0.0	1990	2000	99.5	75-125
Silicon					
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium	0.0	2160	2000	108.0	75-125
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	1.6	1960	2000	97.9	75-125

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3F Original MS	Spikelet MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

8.4.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3F Original	MSD	Spikelet MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	0.0	2060	2000	103.0	7.0	20
Barium	127	2220	2000	104.7	0.9	20
Beryllium	0.0	2020	2000	101.0	1.0	20
Bismuth						
Boron	72.6	2130	2000	102.9	1.4	20
Cadmium	anr					
Calcium						
Chromium	0.0	2040	2000	102.0	1.5	20
Cobalt						
Copper	1.8	1990	2000	99.4	0.5	20
Iron	6.7	24500	25000	98.0	0.4	20
Lead	0.0	2070	2000	103.5	0.5	20
Lithium						
Magnesium						
Manganese	302	2310	2000	100.4	0.9	20
Molybdenum						
Nickel	3.6	2050	2000	102.3	1.0	20
Phosphorus						
Potassium						
Selenium	0.0	2010	2000	100.5	1.0	20
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	0.0	2170	2000	108.5	0.5	20
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	1.6	1990	2000	99.4	1.5	20

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	JC65355-3F Original MSD	Spikelet MPSPK2	% Rec	MSD RPD	QC Limit
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Zirconium

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

8.4.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	BSP Result	Spike lot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	2000	2000	100.0	80-120
Barium	2080	2000	104.0	80-120
Beryllium	2000	2000	100.0	80-120
Bismuth				
Boron	2030	2000	101.5	80-120
Cadmium	anr			
Calcium				
Chromium	2040	2000	102.0	80-120
Cobalt				
Copper	1970	2000	98.5	80-120
Iron	24600	25000	98.4	80-120
Lead	2060	2000	103.0	80-120
Lithium				
Magnesium				
Manganese	2020	2000	101.0	80-120
Molybdenum				
Nickel	2020	2000	101.0	80-120
Phosphorus				
Potassium				
Selenium	1990	2000	99.5	80-120
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium	2160	2000	108.0	80-120
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	2000	2000	100.0	80-120

8.4.3
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18

Metal	BSP Result	Spike lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.4.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18 05/10/18

Metal	JC65355-3 Original SDL 1:5		%DIF	QC Limits	JC65355-3F Original SDL 1:5		%DIF	QC Limits
Aluminum								
Antimony	anr							
Arsenic	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Barium	127	135	5.9	0-10	127	131	2.8	0-10
Beryllium	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Bismuth								
Boron	70.3	63.2	10.1 (a)	0-10	72.6	69.9	3.7	0-10
Cadmium	anr							
Calcium								
Chromium	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Cobalt								
Copper	2.40	0.00	100.0(a)	0-10	1.80	0.00	100.0(a)	0-10
Iron	25.0	29.1	16.4 (a)	0-10	6.70	0.00	100.0(a)	0-10
Lead	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Lithium								
Magnesium								
Manganese	294	315	7.1	0-10	302	318	5.2	0-10
Molybdenum								
Nickel	3.40	5.60	64.7 (a)	0-10	3.60	4.10	13.9 (a)	0-10
Phosphorus								
Potassium								
Selenium	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Silicon								
Silver	anr							
Sodium								
Strontium								
Sulfur								
Thallium	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Tin								
Titanium								
Tungsten								
Vanadium								
Zinc	1.60	17.9	1018.8(a)	0-10	1.60	18.1	1031.3(a)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC65355
 Account: ILINY - Parsons Engineering Science for ILI
 Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

QC Batch ID: MP7055
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 05/10/18 05/10/18

Metal	JC65355-3 Original SDL 1:5	%DIF	QC Limits	JC65355-3F Original SDL 1:5	%DIF	QC Limits
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Zirconium

Associated samples MP7055: JC65355-3, JC65355-4, JC65355-7, JC65355-3F, JC65355-4F, JC65355-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.4.4

8

Instrument Detection Limits

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Instrument ID: LEEMANHG9	Effective Date: 03/09/18
--------------------------	--------------------------

Analyte	IDL ug/l
Mercury	.01642

The above applies to the following instrument runs:
MA44336

Instrument Detection Limits

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Instrument ID: SSTRACE5	Effective Date: 03/05/18
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Analyte	IDL ug/l
Aluminum	34.2
Antimony	1.4
Arsenic	1.4
Barium	.5
Beryllium	.2
Bismuth	2.5
Boron	1.9
Cadmium	.3
Calcium	8.7
Chromium	.6
Cobalt	.5
Copper	1.2
Iron	4.6
Lead	1.4
Lithium	2.8
Magnesium	32.6
Manganese	.1
Molybdenum	.4
Nickel	.5
Phosphorus	1.7
Potassium	68.4
Selenium	3.8
Silicon	2.1
Silver	.5
Sodium	15.3
Sulfur	19.9
Strontium	.2
Thallium	1.6
Tin	1
Titanium	.7
Tungsten	1.8
Vanadium	.4
Zinc	.3
Zirconium	.3

The above applies to the following instrument runs:
MA44379

8.5
8

Instrument Linear Ranges

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Instrument ID: LEEMANHG9	Effective Date: 02/26/18
--------------------------	--------------------------

Analyte	Linear Range ug/l
Mercury	5

The above applies to the following instrument runs:
MA44336

Instrument Linear Ranges

Job Number: JC65355
Account: ILINY Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Instrument ID: SSTRACE5	Effective Date: 11/30/17
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Analyte	Linear Range ug/l
Aluminum	600000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Bismuth	10000
Boron	10000
Cadmium	10000
Calcium	300000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	300000
Lead	10000
Lithium	10000
Magnesium	600000
Manganese	10000
Molybdenum	10000
Nickel	10000
Palladium	10000
Phosphorus	50000
Potassium	300000
Selenium	10000
Silicon	50000
Silver	1250
Sodium	300000
Sulfur	100000
Strontium	10000
Thallium	10000
Tin	10000
Titanium	10000
Tungsten	10000
Vanadium	10000
Zinc	10000
Zirconium	10000

The above applies to the following instrument runs:
MA44379

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN79668	5.0	1.5	mg/l	250	257	102.8	90-110%
Alkalinity, Total as CaCO3	GN79668			mg/l	50	52.0	104.0	90-110%
Bromide	GP13182/GN80230	0.50	0.0	mg/l	1	0.988	98.8	90-110%
Chemical Oxygen Demand	GP12903/GN79737	20	0.0	mg/l	50	49.4	98.8	90-110%
Chemical Oxygen Demand	GP12903/GN79737	20	0.0	mg/l				
Chloride	GP13182/GN80230	2.0	0.0	mg/l	10	9.01	90.1	90-110%
Hardness, Total as CaCO3	GN79684	4.0	0.0	mg/l	160	159	99.4	80-120%
Hardness, Total as CaCO3	GN79684			mg/l	80	81.5	101.9	80-120%
Nitrogen, Ammonia	GP12876/GN79666	0.20	0.0	mg/l	1	0.958	95.8	80-120%
Solids, Total Dissolved	GN79542	10	0.0	mg/l				
Sulfate	GP13182/GN80230	2.0	0.0	mg/l	10	9.70	97.0	90-110%
Total Organic Carbon	GP13032/GN79932	1.0	0.0	mg/l	10	10.3	103.0	90-110%

Associated Samples:

Batch GN79542: JC65355-3, JC65355-4, JC65355-7
Batch GN79668: JC65355-3, JC65355-4, JC65355-7
Batch GN79684: JC65355-3, JC65355-4, JC65355-7
Batch GP12876: JC65355-3, JC65355-4, JC65355-7
Batch GP12903: JC65355-3, JC65355-4, JC65355-7
Batch GP13032: JC65355-3, JC65355-4, JC65355-7
Batch GP13182: JC65355-3, JC65355-4, JC65355-7
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO ₃	GN79668	JC65355-3	mg/l	127	125	1.6	0-10%
Bromide	GP13182/GN80230	JC65355-3	mg/l	0.049	0.0	0.0	0-20%
Chemical Oxygen Demand	GP12903/GN79737	JC65355-3	mg/l	4.9	0.0	0.0	0-25%
Chloride	GP13182/GN80230	JC65355-3	mg/l	11.0	11.0	0.0	0-20%
Hardness, Total as CaCO ₃	GN79684	JC65355-3	mg/l	163	161	1.2	0-10%
Nitrogen, Ammonia	GP12876/GN79666	JC65355-3	mg/l	0.40	0.37	7.8	0-33%
Solids, Total Dissolved	GN79542	JC65355-3	mg/l	278	278	0.0	0-16%
Sulfate	GP13182/GN80230	JC65355-3	mg/l	16.9	17.0	0.6	0-20%

Associated Samples:

Batch GN79542: JC65355-3, JC65355-4, JC65355-7
Batch GN79668: JC65355-3, JC65355-4, JC65355-7
Batch GN79684: JC65355-3, JC65355-4, JC65355-7
Batch GP12876: JC65355-3, JC65355-4, JC65355-7
Batch GP12903: JC65355-3, JC65355-4, JC65355-7
Batch GP13182: JC65355-3, JC65355-4, JC65355-7
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Bromide	GP13182/GN80230	JC65355-3	mg/l	0.049	1	1.1	110.0	80-120%
Chemical Oxygen Demand	GP12903/GN79737	JC65355-3	mg/l	4.9	50	56.8	113.6	55-133%
Chloride	GP13182/GN80230	JC65355-3	mg/l	11.0	10	22.0	110.0	80-120%
Chloride	GP13182/GN80266	JC65355-7	mg/l	27.7	40	70.6	105.8	80-120%
Hardness, Total as CaCO3	GN79684	JC65355-3	mg/l	163	160	318	96.9	67-130%
Nitrogen, Ammonia	GP12876/GN79666	JC65355-3	mg/l	0.40	1	1.3	90.0	75-131%
Sulfate	GP13182/GN80248	JC65355-3	mg/l	16.9	20	31.7	74.0N(a)	80-120%
Sulfate	GP13182/GN80248	JC65355-7	mg/l	66.2	100	169	90.1	80-120%
Total Organic Carbon	GP13032/GN79932	JC65355-3	mg/l	3.9	10	17.1	132.0	50-150%

Associated Samples:

Batch GN79684: JC65355-3, JC65355-4, JC65355-7
Batch GP12876: JC65355-3, JC65355-4, JC65355-7
Batch GP12903: JC65355-3, JC65355-4, JC65355-7
Batch GP13032: JC65355-3, JC65355-4, JC65355-7
Batch GP13182: JC65355-3, JC65355-4, JC65355-7

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Nitrogen, Ammonia	GP12876/GN79666	JC65355-3	mg/l	0.40	1	1.4	7.4	14%
Total Organic Carbon	GP13032/GN79932	JC65355-3	mg/l	3.9	10	17.2	0.6	11%

Associated Samples:

Batch GP12876: JC65355-3, JC65355-4, JC65355-7

Batch GP13032: JC65355-3, JC65355-4, JC65355-7

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D050718W1.AMN

Date Analyzed: 05/07/18

Methods: SM4500NH3 H-11LACHAT

Analyst: TG

Run ID: GN79666

Parameters: Nitrogen, Ammonia

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:36	GN79666-STD1	1		STDA
11:37	GN79666-STD2	1		STDB
11:39	GN79666-STD3	1		STDC
11:40	GN79666-STD4	1		STDD
11:41	GN79666-STD5	1		STDE
11:43	GN79666-STD6	1		STDF
11:44	GN79666-STD7	1		STDG
11:46	GN79666-ICV1	1		ICV failed, see rerun.
11:54	GN79666-ICV2	1		
11:56	GN79666-ICB1	1		
11:57	GN79666-CCV1	1		
11:59	GN79666-CCB1	1		
12:00	GP12876-MB1	1		
12:01	GP12876-B1	1		
12:03	ZZZZZZ	1		
12:04	ZZZZZZ	1		
12:06	ZZZZZZ	1		
12:07	GP12876-B1	1		
12:09	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:11	ZZZZZZ	1		
12:13	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:16	GN79666-CCVA1	1		
12:17	GN79666-CCB2	1		
12:19	GP12876-S1	1		
12:20	GP12876-MSD1	1		
12:21	GP12876-D1	1		
12:23	JC65355-3	1		
12:24	JC65355-4	1		
12:26	JC65355-7	1		
12:27	ZZZZZZ	1		
12:29	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D050718W1.AMN

Date Analyzed: 05/07/18

Methods: SM4500NH3 H-11LACHAT

Analyst: TG

Run ID: GN79666

Parameters: Nitrogen, Ammonia

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:30	ZZZZZZ	1		
12:32	GN79666-CCV2	1		
12:33	GN79666-CCB3	1		
12:34	ZZZZZZ	1		
12:39	GN79666-CCVA2	1		
12:41	GN79666-CCB4	1		
12:50	GN79666-CCVA3	1		
12:52	GN79666-CCB5	1		
12:53	ZZZZZZ	3		
12:55	ZZZZZZ	5		
12:56	ZZZZZZ	10		
12:57	ZZZZZZ	5		
13:02	GN79666-CCV3	1		
13:04	GN79666-CCB6	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D050718W1.AMN

Date Analyzed: 05/07/18
Run ID: GN79666

Methods: SM4500NH3 H-11LACHAT
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN79666-ICV1	Nitrogen, Ammonia	1.33	0.20	0.14			
GN79666-ICV2	Nitrogen, Ammonia	1.48	0.20	0.14	1.5	98.7	90-110
GN79666-ICB1	Nitrogen, Ammonia	0.14 U	0.20	0.14			
GN79666-CCV1	Nitrogen, Ammonia	1.49	0.20	0.14	1.5	99.3	90-110
GN79666-CCB1	Nitrogen, Ammonia	0.14 U	0.20	0.14			
GN79666-CCVA1	Nitrogen, Ammonia	2.87	0.20	0.14	3	95.7	
GN79666-CCB2	Nitrogen, Ammonia	0.14 U	0.20	0.14			
GN79666-CCV2	Nitrogen, Ammonia	1.45	0.20	0.14	1.5	96.7	90-110
GN79666-CCB3	Nitrogen, Ammonia	0.14 U	0.20	0.14			
GN79666-CCVA2	Nitrogen, Ammonia	2.84	0.20	0.14	3	94.7	
GN79666-CCB4	Nitrogen, Ammonia	0.14 U	0.20	0.14			
GN79666-CCVA3	Nitrogen, Ammonia	2.81	0.20	0.14	3	93.7	
GN79666-CCB5	Nitrogen, Ammonia	0.14 U	0.20	0.14			
GN79666-CCV3	Nitrogen, Ammonia	1.45	0.20	0.14	1.5	96.7	90-110
GN79666-CCB6	Nitrogen, Ammonia	0.14 U	0.20	0.14			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D80514W1.TXT Date Analyzed: 05/14/18 Methods: SW846 9060A
Analyst: CD Run ID: GN79932
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:47	ZZZZZZ	1		
10:58	GN79932-STD1	1		STDA
11:09	GN79932-STD2	1		STDB
11:24	GN79932-STD3	1		STDC
11:36	GN79932-STD4	1		STDD
11:48	GN79932-STD5	1		STDE
12:00	GN79932-STD6	1		STDF
12:13	GN79932-STD7	1		STDG
12:27	GN79932-STD8	1		STDH
12:53	GN79932-ICV1	1		
13:08	GN79932-ICB1	1		
13:22	GN79932-CCV1	1		
13:37	GN79932-CCB1	1		
13:49	ZZZZZZ	1		
14:01	GP13023-MB1	1		
14:33	GP13023-B1	1		
15:13	ZZZZZZ	1		
15:44	ZZZZZZ	1		
15:56	FA53733-4	1		(sample used for QC only; not part of login JC65355)
16:08	GP13023-S1	1		
16:22	GP13023-MSD1	1		
16:36	GN79932-CCVA1	1		
16:53	GN79932-CCB2	1		
17:04	ZZZZZZ	1		
17:16	ZZZZZZ	1		
17:31	ZZZZZZ	1		
17:43	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:10	ZZZZZZ	1		
18:22	ZZZZZZ	1		
18:34	ZZZZZZ	1		
18:48	GP13024-MB1	1		
19:01	GP13024-B1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D80514W1.TXT Date Analyzed: 05/14/18 Methods: SW846 9060A
Analyst: CD Run ID: GN79932
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:14	GN79932-CCV2	1		
19:30	GN79932-CCB3	1		
19:42	ZZZZZZ	1		
20:05	ZZZZZZ	1		
20:18	ZZZZZZ	1		
20:31	FA53509-4	1		(sample used for QC only; not part of login JC65355)
20:44	GP13024-S1	1		
20:58	GP13024-MSD1	1		
21:12	ZZZZZZ	1		
21:24	ZZZZZZ	1		
21:36	ZZZZZZ	1		
21:48	ZZZZZZ	1		
22:01	GN79932-CCVA2	1		
22:17	GN79932-CCB4	1		
22:29	ZZZZZZ	1		
22:43	GP13025-MB1	1		
22:55	GP13025-B1	1		
23:09	FA53594-11	1		(sample used for QC only; not part of login JC65355)
23:21	GP13025-S1	1		
23:36	GP13025-MSD1	1		
23:49	ZZZZZZ	1		
00:03	ZZZZZZ	1		
00:18	ZZZZZZ	1		
00:33	ZZZZZZ	1		
00:47	GN79932-CCV3	1		
01:03	GN79932-CCB5	1		
01:15	ZZZZZZ	1		
01:42	ZZZZZZ	1		
02:02	ZZZZZZ	1		
02:13	ZZZZZZ	1		
02:27	GP13032-MB1	1		
02:40	GP13032-B1	1		
02:53	JC65355-3	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D80514W1.TXT Date Analyzed: 05/14/18 Methods: SW846 9060A
Analyst: CD Run ID: GN79932
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:06	GP13032-S1	1		
03:19	GP13032-MSD1	1		
03:34	GN79932-CCVA3	1		
03:50	GN79932-CCB6	1		
04:02	JC65355-4	1		
04:14	JC65355-7	1		
04:27	GN79932-CCV4	1		
04:42	GN79932-CCB7	1		
04:54	ZZZZZ	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: D80514W1.TXT

Date Analyzed: 05/14/18
Run ID: GN79932

Methods: SW846 9060A
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN79932-ICV1	Total Organic Carbon	19.8	1.0	0.60	20	99.0	90-110
GN79932-ICB1	Total Organic Carbon	0.60 U	1.0	0.60			
GN79932-CCV1	Total Organic Carbon	25.5	1.0	0.60	25	102.0	90-110
GN79932-CCB1	Total Organic Carbon	0.60 U	1.0	0.60			
GN79932-CCVA1	Total Organic Carbon	49.8	1.0	0.60	50	99.6	
GN79932-CCB2	Total Organic Carbon	0.60 U	1.0	0.60			
GN79932-CCV2	Total Organic Carbon	25.5	1.0	0.60	25	102.0	90-110
GN79932-CCB3	Total Organic Carbon	0.60 U	1.0	0.60			
GN79932-CCVA2	Total Organic Carbon	50.3	1.0	0.60	50	100.6	
GN79932-CCB4	Total Organic Carbon	0.60 U	1.0	0.60			
GN79932-CCV3	Total Organic Carbon	25.1	1.0	0.60	25	100.4	90-110
GN79932-CCB5	Total Organic Carbon	0.641	1.0	0.60			
GN79932-CCVA3	Total Organic Carbon	49.8	1.0	0.60	50	99.6	
GN79932-CCB6	Total Organic Carbon	0.60 U	1.0	0.60			
GN79932-CCV4	Total Organic Carbon	25.3	1.0	0.60	25	101.2	90-110
GN79932-CCB7	Total Organic Carbon	0.60 U	1.0	0.60			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118051901.TXT

Date Analyzed: 05/19/18

Methods: EPA 300/SW846 9056A

Analyst: NV

Run ID: GN80230

Parameters: Bromide, Chloride, Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:29	GN80230-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
11:12	GN80230-STD2	1		STDB
11:39	GN80230-STD3	1		STDC
12:07	GN80230-STD4	1		STDD
12:35	GN80230-STD5	1		STDE
13:03	GN80230-STD6	1		STDF
13:31	ZZZZZZ	1		
13:59	ZZZZZZ	1		
14:27	ZZZZZZ	1		
14:55	GN80230-ICV1	1		
15:23	GN80230-CCV1	1		
15:51	GN80230-CCB1	1		
16:19	GP13182-MB1	1		
16:47	GP13182-B1	1		
17:14	GP13182-S1	1		Over calibration curve. See rerun at dilution for so4. reporting for chl and bro
17:42	GP13182-D1	1		
18:10	JC65355-3	1		
18:38	JC65355-4	1		
19:06	JC65355-7	1		Over calibration curve. See rerun at dilution for chl and so4. reporting for bro
19:34	ZZZZZZ	1		
20:02	ZZZZZZ	1		
20:30	ZZZZZZ	1		
20:58	GN80230-CCV2	1		
21:26	GN80230-CCB2	1		
21:54	ZZZZZZ	1		
22:22	ZZZZZZ	1		
22:50	GN80230-CCV3	1		
23:17	GN80230-CCB3	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118051901.TXT

Date Analyzed: 05/19/18
Run ID: GN80230

Methods: EPA 300/SW846 9056A
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN80230-ICV1	Chloride	9.02	2.0	0.070	10	90.2	90-110
GN80230-ICV1	Bromide	0.993	0.50	0.060	1	99.3	90-110
GN80230-ICV1	Sulfate	9.70	2.0	0.53	10	97.0	90-110
GN80230-CCV1	Chloride	12.0	2.0	0.070	12.5	96.0	90-110
GN80230-CCV1	Bromide	2.52	0.50	0.060	2.5	100.8	90-110
GN80230-CCV1	Sulfate	12.8	2.0	0.53	12.5	102.4	90-110
GN80230-CCB1	Chloride	0.070 U	2.0	0.070			
GN80230-CCB1	Bromide	0.060 U	0.50	0.060			
GN80230-CCB1	Sulfate	0.53 U	2.0	0.53			
GN80230-CCV2	Chloride	12.0	2.0	0.070	12.5	96.0	90-110
GN80230-CCV2	Bromide	2.51	0.50	0.060	2.5	100.4	90-110
GN80230-CCV2	Sulfate	12.9	2.0	0.53	12.5	103.2	90-110
GN80230-CCB2	Chloride	0.144	2.0	0.070			
GN80230-CCB2	Bromide	0.060 U	0.50	0.060			
GN80230-CCB2	Sulfate	0.53 U	2.0	0.53			
GN80230-CCV3	Chloride	12.0	2.0	0.070	12.5	96.0	90-110
GN80230-CCV3	Bromide	2.52	0.50	0.060	2.5	100.8	90-110
GN80230-CCV3	Sulfate	13.0	2.0	0.53	12.5	104.0	90-110
GN80230-CCB3	Chloride	0.128	2.0	0.070			
GN80230-CCB3	Bromide	0.060 U	0.50	0.060			
GN80230-CCB3	Sulfate	0.53 U	2.0	0.53			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118052001.TXT
Analyst: NV
Parameters: Sulfate

Date Analyzed: 05/20/18
Run ID: GN80248

Methods: EPA 300/SW846 9056A

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:29	GN80248-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. STDB
11:12	GN80248-STD2	1		
11:39	GN80248-STD3	1		
12:07	GN80248-STD4	1		
12:35	GN80248-STD5	1		
13:03	GN80248-STD6	1		
10:15	GN80248-ICV1	1		
11:17	GN80248-CCV1	1		
11:45	GN80248-CCB1	1		
12:12	GP13182-MB2	1		
12:40	GP13182-B2	1		
13:08	ZZZZZZ	1		
13:36	ZZZZZZ	1		
14:04	ZZZZZZ	1		
14:32	ZZZZZZ	1		
15:00	ZZZZZZ	1		
15:28	ZZZZZZ	1		
15:56	ZZZZZZ	1		
16:24	ZZZZZZ	1		
16:52	GN80248-CCV2	1		
17:20	GN80248-CCB2	1		
17:47	ZZZZZZ	1		
18:15	ZZZZZZ	1		
18:43	ZZZZZZ	1		
19:11	ZZZZZZ	1		
19:39	GP13182-S1	2		
20:07	GP13182-S2	1		Over calibration curve. See rerun at dilution for chl an f so4. reporting for bro
20:35	JC65355-7	5		
21:03	GP13182-S2	10		
21:31	ZZZZZZ	5		
21:59	GN80248-CCV3	1		
22:27	GN80248-CCB3	1		
22:55	GP13187-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118052001.TXT
Analyst: NV
Parameters: Sulfate

Date Analyzed: 05/20/18
Run ID: GN80248

Methods: EPA 300/SW846 9056A

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:22	GP13187-B1	1		
23:50	GP13187-S1	1		Over calibration curve. See rerun at dilution.
00:18	GP13187-D1	1		Over calibration curve. See rerun at dilution.
00:46	JC65786-1	1		(sample used for QC only; not part of login JC65355)
01:14	ZZZZZZ	1		
01:42	ZZZZZZ	1		
02:10	ZZZZZZ	1		
02:38	ZZZZZZ	1		
03:06	ZZZZZZ	1		
03:34	GN80248-CCV4	1		
04:02	GN80248-CCB4	1		
04:30	ZZZZZZ	1		
04:58	ZZZZZZ	1		
05:25	ZZZZZZ	1		
05:53	ZZZZZZ	1		
06:21	GN80248-CCV5	1		
06:49	GN80248-CCB5	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118052001.TXT

Date Analyzed: 05/20/18
Run ID: GN80248

Methods: EPA 300/SW846 9056A
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN80248-ICV1	Sulfate	9.66	2.0	0.53	10	96.6	90-110
GN80248-CCV1	Sulfate	12.4	2.0	0.53	12.5	99.2	90-110
GN80248-CCB1	Sulfate	0.53 U	2.0	0.53			
GN80248-CCV2	Sulfate	13.6	2.0	0.53	12.5	108.8	90-110
GN80248-CCB2	Sulfate	0.53 U	2.0	0.53			
GN80248-CCV3	Sulfate	12.6	2.0	0.53	12.5	100.8	90-110
GN80248-CCB3	Sulfate	0.53 U	2.0	0.53			
GN80248-CCV4	Sulfate	12.6	2.0	0.53	12.5	100.8	90-110
GN80248-CCB4	Sulfate	0.53 U	2.0	0.53			
GN80248-CCV5	Sulfate	12.6	2.0	0.53	12.5	100.8	90-110
GN80248-CCB5	Sulfate	0.53 U	2.0	0.53			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355

Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118052201.TXT
Analyst: MET
Parameters: Chloride

Date Analyzed: 05/22/18
Run ID: GN80266

Methods: EPA 300/SW846 9056A

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:29	GN80266-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. STDB
11:12	GN80266-STD2	1		
11:39	GN80266-STD3	1		
12:07	GN80266-STD4	1		
12:35	GN80266-STD5	1		
13:03	GN80266-STD6	1		
09:50	GN80266-ICV1	1		
10:18	GN80266-CCV1	1		
10:46	GN80266-CCB1	1		
11:19	GP13182-MB3	1		
11:46	GP13182-B3	1		
12:14	GP13182-S2	4		reporting for chl
12:42	JC65355-7	2		reporting for chl
13:10	ZZZZZZ	2		
13:38	GN80266-CCV2	1		
14:06	GN80266-CCB2	1		
14:34	GP13206-MB1	1		
15:02	GP13206-B1	1		
15:30	JC64404-19P	1		(sample used for QC only; not part of login JC65355)
16:04	GP13206-D1	1		Over calibration curve. See rerun at dilution.
16:32	GN80266-CCV3	1		
17:00	GN80266-CCB3	1		
17:28	ZZZZZZ	5		
17:56	ZZZZZZ	4		
18:23	ZZZZZZ	250		
18:51	ZZZZZZ	100		
19:19	ZZZZZZ	30		
19:47	ZZZZZZ	3		
20:15	ZZZZZZ	30		
20:43	ZZZZZZ	200		
21:11	ZZZZZZ	200		
21:39	GN80266-CCV4	1		
22:07	GN80266-CCB4	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118052201.TXT
Analyst: MET
Parameters: Chloride

Date Analyzed: 05/22/18
Run ID: GN80266

Methods: EPA 300/SW846 9056A

Time	Sample Description	Dilution Factor	PS Recov	Comments
22:35	GP13187-S1	50		
23:03	GP13187-S1	10		
23:31	GP13187-D1	30		
23:59	GP13187-D1	5		
00:26	JC65786-1	30		(sample used for QC only; not part of login JC65355)
00:54	JC65786-1	5		(sample used for QC only; not part of login JC65355)
01:22	ZZZZZZ	50		
01:50	ZZZZZZ	40		
02:18	GN80266-CCV5	1		
02:46	GN80266-CCB5	1		
03:14	GP13243-MB1	1		
03:42	ZZZZZZ	1		
04:10	GN80266-CCV6	1		
04:38	GN80266-CCB6	1		
05:06	GP13244-MB1	1		CCV out
05:34	ZZZZZZ	1		
06:02	GN80266-CCV7	1		
06:29	GN80266-CCB7	1		
06:57	GP13206-BA	1		
07:25	GP13206-BB	1		
07:53	GP13206-BC	1		
08:21	GP13206-BD	1		
08:49	GN80266-CCV8	1		
09:17	GN80266-CCB8	1		
10:39	ZZZZZZ	500		
11:07	ZZZZZZ	50		
11:35	ZZZZZZ	50		
12:03	ZZZZZZ	3		
12:30	ZZZZZZ	1000		
12:58	ZZZZZZ	1		
13:27	GN80266-CCV9	1		
13:55	GN80266-CCB9	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC65355
Account: ILINY - Parsons Engineering Science for ILI
Project: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

File ID: 1118052201.TXT

Date Analyzed: 05/22/18
Run ID: GN80266

Methods: EPA 300/SW846 9056A
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN80266-ICV1	Chloride	9.26	2.0	0.070	10	92.6	90-110
GN80266-CCV1	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB1	Chloride	0.070 U	2.0	0.070			
GN80266-CCV2	Chloride	12.4	2.0	0.070	12.5	99.2	90-110
GN80266-CCB2	Chloride	0.070 U	2.0	0.070			
GN80266-CCV3	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB3	Chloride	0.070 U	2.0	0.070			
GN80266-CCV4	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB4	Chloride	0.070 U	2.0	0.070			
GN80266-CCV5	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB5	Chloride	0.070 U	2.0	0.070			
GN80266-CCV6	Chloride	13.1	2.0	0.070	12.5	104.8	90-110
GN80266-CCB6	Chloride	0.070 U	2.0	0.070			
GN80266-CCV7	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB7	Chloride	0.0943	2.0	0.070			
GN80266-CCV8	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB8	Chloride	0.070 U	2.0	0.070			
GN80266-CCV9	Chloride	12.3	2.0	0.070	12.5	98.4	90-110
GN80266-CCB9	Chloride	0.070 U	2.0	0.070			
(!) Outside of QC limits							

Misc. Forms

Custody Documents and Other Forms

(SGS Orlando, FL)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle



CHAIN OF CUSTODY

Page 1 of 1

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

FED-EX Tracking #		Bottle Order Control #	
SGS Quote #		SGS Job #	
		JC65355	
Client / Reporting Information			
Company Name: SGS North America Inc.		Project Name: PESNYL: ILI - Region 1, Old North Sea Landfill, NY	
Street Address 2235 Route 130		Street	
City State Zip Dayton NJ 08810		City State	
Project Contact E-mail michelle.jenkins@sgs.com		Project #	
Phone # 732-329-0200		Client Purchase Order #	
Sample(s) Name(s) TH		Attention:	
SGS Sample #		Field ID / Point of Collection	
MEORHDI Val #		Date Time	
Sampled by		Matrix	
# of bottles		HCl	
HNO3		H2SO4	
NONE		DI Water	
MEQ/L		ECCORE	
LAB USE ONLY			
Requested Analysis (see TEST CODE sheet)			
Matrix Codes			
DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB-Rinse Blank TB-Trip Blank			
Comments / Special Instructions			
Turnaround Time (Business days)			
Approved By (SGS PM): / Date:			
Commercial "A" (Level 1) Commercial "B" (Level 2) FULLT1 (Level 3+4) NJ Reduced Commercial "C"			
NYASP Category A NYASP Category B State Forms EDD Format Other NYASPB			
Commercial "A" = Results Only Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data			
Emergency & Rush T/A data available VIA Lablink			
Sample Custody must be documented below each time samples change possession, including courier delivery.			
Relinquished by Sampler: 1		Received By: 1	
Date Time: 5-4-18 17:00		Date Time: FED EX	
Relinquished by Sampler: 3		Received By: 3	
Date Time:		Date Time:	
Relinquished by: 5		Received By: 5	
Date Time:		Date Time:	
Custody Seal: 514		Intact Not Intact	
Preserved where applicable		On Ice Cooler Temp. 3.2	

JC65355: Chain of Custody

Page 1 of 2

SGS Orlando, FL



SGS Sample Receipt Summary

Job Number: JC65355 **Client:** ALNJ **Project:** PESNYL
Date / Time Received: 5/5/2018 9:45:00 AM **Delivery Method:** FED EX **Airbill #s:** 1001893380610003281100563393516599

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1
Cooler Temps (Raw Measured) °C: Cooler 1: (2.8);
Cooler Temps (Corrected) °C: Cooler 1: (3.2);

Cooler Information

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present	☒		☐
2. Custody Seals Intact	☒		☐
3. Temp criteria achieved	☒		☐
4. Cooler temp verification	<u>IR Gun</u>		
5. Cooler media	<u>Ice (Bag)</u>		

Trip Blank Information

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler	☐		☐	☒
2. Trip Blank listed on COC	☐		☐	☒
	<u>W</u>	<u>or</u>	<u>S</u>	<u>N/A</u>
3. Type Of TB Received	☐		☐	☒

Sample Information

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Test Strip Lot #s: pH 0-3 _____ 230315 _____
 Residual Chlorine Test Strip Lot #: _____

Number of 5035 Field Kits: _____
 pH 10-12 _____ 219813A _____

Number of Lab Filtered Metals: _____
 Other: (Specify) _____

Comments

SM001
 Rev. Date 05/24/17

Technician: SHAYLAP

Date: 5/5/2018 9:45:00 AM

Reviewer: _____

Date: _____

JC65355: Chain of Custody

Page 2 of 2

Internal Sample Tracking Chronicle

SGS Dayton, NJ

Job No: JC65355

ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY
Project No: 450619

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC65355-1	Collected: 01-MAY-18 11:15	By: TH	Received: 02-MAY-18	By: SP		
1-SUF-009-001-01						
JC65355-1	EPA 537M BY ID	10-MAY-18 02:20	NAF	08-MAY-18 AF		LCID537NY21
JC65355-2	Collected: 01-MAY-18 11:17	By: TH	Received: 02-MAY-18	By: SP		
1-SUF-009-001-02						
JC65355-2	EPA 537M BY ID	10-MAY-18 02:40	NAF	08-MAY-18 AF		LCID537NY21
JC65355-3	Collected: 01-MAY-18 12:35	By: TH	Received: 02-MAY-18	By: SP		
1-SUF-009-001-03						
JC65355-3	EPA 537M BY ID	10-MAY-18 02:59	NAF	08-MAY-18 AF		LCID537NY21
JC65355-3	EPA 537M BY ID	11-MAY-18 17:49	NAF	08-MAY-18 AF		LCID537NY21
JC65355-4	Collected: 01-MAY-18 12:35	By: TH	Received: 02-MAY-18	By: SP		
1-SUF-009-001-04						
JC65355-4	EPA 537M BY ID	10-MAY-18 03:59	NAF	08-MAY-18 AF		LCID537NY21
JC65355-4	EPA 537M BY ID	11-MAY-18 18:08	NAF	08-MAY-18 AF		LCID537NY21
JC65355-6	Collected: 02-MAY-18 10:35	By: TH	Received: 02-MAY-18	By: SP		
1-SUF-009-001-06						
JC65355-6	EPA 537M BY ID	10-MAY-18 04:19	NAF	08-MAY-18 DC		LCID537NY21
JC65355-6	EPA 537M BY ID	16-MAY-18 13:39	NAF	14-MAY-18 MB		LCID537NY21
JC65355-7	Collected: 02-MAY-18 10:45	By: TH	Received: 02-MAY-18	By: SP		
1-SUF-009-001-07						
JC65355-7	EPA 537M BY ID	10-MAY-18 04:38	NAF	08-MAY-18 AF		LCID537NY21
JC65355-7	EPA 537M BY ID	11-MAY-18 18:28	NAF	08-MAY-18 AF		LCID537NY21

MS Semi-volatiles

QC Data Summaries

(SGS Orlando, FL)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Injection Standard Area Summaries
- Isotope Dilution Standard Recovery Summaries
- Initial and Continuing Calibration Summaries

Instrument Blank

Page 1 of 2

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ1132-IBLK	Q46031.D	1	05/09/18	NAF	n/a	n/a	SQ1132

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.015	0.0038	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0077	0.0019	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0077	0.0019	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0077	0.0019	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0077	0.0019	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0077	0.0019	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0077	0.0019	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0077	0.0019	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0077	0.0019	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0077	0.0019	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0077	0.0019	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0077	0.0019	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0077	0.0019	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0077	0.0019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.015	0.0038	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0077	0.0019	ug/l	
754-91-6	PFOSA	ND	0.0077	0.0019	ug/l	
2355-31-9	MeFOSAA	ND	0.038	0.0077	ug/l	
2991-50-6	EtFOSAA	ND	0.038	0.0077	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.015	0.0038	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.015	0.0038	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 30-140%
	13C5-PFPeA	98% 40-140%
	13C5-PFHxA	102% 50-150%
	13C4-PFHpA	102% 50-150%
	13C8-PFOA	102% 50-150%
	13C9-PFNA	102% 50-150%
	13C6-PFDA	104% 50-150%
	13C7-PFUnDA	102% 50-150%
	13C2-PFDoDA	101% 50-150%
	13C2-PFTeDA	98% 40-150%
	13C3-PFBS	100% 50-150%

Instrument Blank

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ1132-IBLK	Q46031.D	1	05/09/18	NAF	n/a	n/a	SQ1132

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	ID Standard Recoveries	Limits
13C3-PFHxS	103%	50-150%
13C8-PFOS	101%	50-150%
13C8-FOSA	100%	30-140%
d3-MeFOSAA	97%	50-150%
13C2-4:2FTS	93%	50-150%
13C2-6:2FTS	94%	50-150%
13C2-8:2FTS	95%	50-150%

Method Blank Summary

Page 1 of 2

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-MB	Q46056.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0010	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	88% 30-140%
	13C5-PFPeA	88% 40-140%
	13C5-PFHxA	92% 50-150%
	13C4-PFHpA	95% 50-150%
	13C8-PFOA	91% 50-150%
	13C9-PFNA	77% 50-150%
	13C6-PFDA	66% 50-150%
	13C7-PFUnDA	57% 50-150%
	13C2-PFDoDA	58% 50-150%
	13C2-PFTeDA	65% 40-150%
	13C3-PFBS	91% 50-150%

Method Blank Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-MB	Q46056.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	ID Standard Recoveries	Limits
13C3-PFHxS	84%	50-150%
13C8-PFOS	56%	50-150%
13C8-FOSA	76%	30-140%
d3-MeFOSAA	71%	50-150%
13C2-6:2FTS	88%	50-150%
13C2-8:2FTS	72%	50-150%

Method Blank Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70035-MB	Q46341.D	1	05/16/18	NAF	05/14/18	OP70035	SQ1137

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JC65355-6

CAS No.	Compound	Result	RL	MDL	Units	Q
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	55% 30-140%
	13C5-PFPeA	56% 40-140%
	13C5-PFHxA	57% 50-150%
	13C4-PFHpA	65% 50-150%
	13C8-PFOA	67% 50-150%
	13C9-PFNA	69% 50-150%
	13C6-PFDA	73% 50-150%
	13C7-PFUnDA	64% 50-150%
	13C2-PFDoDA	61% 50-150%
	13C2-PFTeDA	62% 40-150%
	13C3-PFBS	60% 50-150%
	13C3-PFHxS	69% 50-150%
	13C8-PFOS	73% 50-150%
	13C8-FOSA	60% 30-140%
	d3-MeFOSAA	68% 50-150%
	13C2-6:2FTS	67% 50-150%
	13C2-8:2FTS	70% 50-150%

Instrument Blank

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ1134-IBLK	Q46109.D	1	05/10/18	NAF	n/a	n/a	SQ1134

The QC reported here applies to the following samples: Method: EPA 537M QSM5.1 B-15
JC65355-3, JC65355-4, JC65355-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.017	0.0042	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.017	0.0042	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C5-PFHxA	94% 50-150%
	13C4-PFHpA	97% 50-150%
	13C8-PFOA	97% 50-150%
	13C9-PFNA	97% 50-150%
	13C6-PFDA	95% 50-150%
	13C7-PFUnDA	91% 50-150%
	13C2-PFDoDA	88% 50-150%
	13C2-PFTeDA	90% 50-150%
	13C3-PFBS	93% 50-150%
	13C3-PFHxS	97% 50-150%
	13C8-PFOS	95% 50-150%
	d3-MeFOSAA	102% 50-150%

11.1.4
11

Instrument Blank

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ1134-IBLK	Q46183.D	1	05/11/18	NAF	n/a	n/a	SQ1134

The QC reported here applies to the following samples: Method: EPA 537M QSM5.1 B-15
JC65355-3, JC65355-4, JC65355-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.017	0.0042	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.017	0.0042	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C5-PFHxA	85% 50-150%
	13C4-PFHpA	87% 50-150%
	13C8-PFOA	87% 50-150%
	13C9-PFNA	88% 50-150%
	13C6-PFDA	89% 50-150%
	13C7-PFUnDA	78% 50-150%
	13C2-PFDoDA	69% 50-150%
	13C2-PFTeDA	65% 50-150%
	13C3-PFBS	86% 50-150%
	13C3-PFHxS	91% 50-150%
	13C8-PFOS	93% 50-150%
	d3-MeFOSAA	70% 50-150%

Blank Spike Summary

Page 1 of 2

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-BS	Q46055.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.107	134*	70-130
2706-90-3	Perfluoropentanoic acid	0.08	0.0982	123	70-130
307-24-4	Perfluorohexanoic acid	0.08	0.0899	112	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0976	122	71-130
335-67-1	Perfluorooctanoic acid	0.08	0.0983	123	74-130
375-95-1	Perfluorononanoic acid	0.08	0.0913	114	76-130
335-76-2	Perfluorodecanoic acid	0.08	0.0904	113	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.102	128	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.102	128	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.101	126	70-139
376-06-7	Perfluorotetradecanoic acid	0.08	0.0954	119	70-130
375-73-5	Perfluorobutanesulfonic acid	0.0708	0.0843	119	73-130
355-46-4	Perfluorohexanesulfonic acid	0.0728	0.0833	114	74-130
375-92-8	Perfluoroheptanesulfonic acid	0.076	0.0879	116	74-130
1763-23-1	Perfluorooctanesulfonic acid	0.074	0.108	146*	70-130
335-77-3	Perfluorodecanesulfonic acid	0.0772	0.0672	87	70-130
754-91-6	PFOSA	0.08	0.0977	122	70-131
2355-31-9	MeFOSAA	0.08	0.0993	124	70-130
2991-50-6	EtFOSAA	0.08	0.0919	115	70-130
27619-97-2	6:2 Fluorotelomer sulfonate	0.076	0.0965	127	70-133
39108-34-4	8:2 Fluorotelomer sulfonate	0.0768	0.0945	123	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	84%	30-140%
	13C5-PFPeA	85%	40-140%
	13C5-PFHxA	88%	50-150%
	13C4-PFHpA	90%	50-150%
	13C8-PFOA	90%	50-150%
	13C9-PFNA	84%	50-150%
	13C6-PFDA	80%	50-150%
	13C7-PFUnDA	60%	50-150%
	13C2-PFDoDA	53%	50-150%
	13C2-PFTeDA	58%	40-150%
	13C3-PFBS	89%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-BS	Q46055.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132

The QC reported here applies to the following samples: Method: EPA 537M BY ID
JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	ID Standard Recoveries	BSP	Limits
	13C3-PFHxS	86%	50-150%
	13C8-PFOS	68%	50-150%
	13C8-FOSA	86%	30-140%
	d3-MeFOSAA	78%	50-150%
	13C2-6:2FTS	91%	50-150%
	13C2-8:2FTS	106%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 2

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-BS	Q46176.D	1	05/11/18	NAF	05/08/18	OP69978	SQ1134

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.0813	102	70-130
2706-90-3	Perfluoropentanoic acid	0.08	0.0822	103	70-130
307-24-4	Perfluorohexanoic acid	0.08	0.0779	97	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0831	104	71-130
335-67-1	Perfluorooctanoic acid	0.08	0.0866	108	74-130
375-95-1	Perfluorononanoic acid	0.08	0.0792	99	76-130
335-76-2	Perfluorodecanoic acid	0.08	0.0799	100	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0864	108	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0866	108	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0929	116	70-139
376-06-7	Perfluorotetradecanoic acid	0.08	0.0779	97	70-130
375-73-5	Perfluorobutanesulfonic acid	0.0708	0.0728	103	73-130
355-46-4	Perfluorohexanesulfonic acid	0.0728	0.0722	99	74-130
375-92-8	Perfluoroheptanesulfonic acid	0.076	0.0823	108	74-130
1763-23-1	Perfluorooctanesulfonic acid	0.074	0.0884	119	70-130
335-77-3	Perfluorodecanesulfonic acid	0.0772	0.0940	122	70-130
754-91-6	PFOSA	0.08	0.0884	111	70-131
2355-31-9	MeFOSAA	0.08	0.0821	103	70-130
2991-50-6	EtFOSAA	0.08	0.0848	106	70-130
27619-97-2	6:2 Fluorotelomer sulfonate	0.076	0.0816	107	70-133
39108-34-4	8:2 Fluorotelomer sulfonate	0.0768	0.0814	106	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	70%	30-140%
	13C5-PFPeA	70%	40-140%
	13C5-PFHxA	70%	50-150%
	13C4-PFHpA	71%	50-150%
	13C8-PFOA	70%	50-150%
	13C9-PFNA	71%	50-150%
	13C6-PFDA	78%	50-150%
	13C7-PFUnDA	63%	50-150%
	13C2-PFDoDA	54%	50-150%
	13C2-PFTeDA	51%	40-150%
	13C3-PFBS	71%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-BS	Q46176.D	1	05/11/18	NAF	05/08/18	OP69978	SQ1134

The QC reported here applies to the following samples: Method: EPA 537M BY ID
JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	ID Standard Recoveries	BSP	Limits
	13C3-PFHxS	76%	50-150%
	13C8-PFOS	77%	50-150%
	13C8-FOSA	61%	30-140%
	d3-MeFOSAA	63%	50-150%
	13C2-6:2FTS	69%	50-150%
	13C2-8:2FTS	73%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP70035-BS ^a	Q46340.D	1	05/16/18	NAF	05/14/18	OP70035	SQ1137

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JC65355-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2058-94-8	Perfluoroundecanoic acid	0.08	0.0878	110	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0869	109	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.074	0.0839	113	70-130

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	45%	30-140%
	13C5-PFPeA	46%	40-140%
	13C5-PFHxA	49%* ^b	50-150%
	13C4-PFHpA	56%	50-150%
	13C8-PFOA	60%	50-150%
	13C9-PFNA	62%	50-150%
	13C6-PFDA	68%	50-150%
	13C7-PFUnDA	63%	50-150%
	13C2-PFDoDA	60%	50-150%
	13C2-PFTeDA	66%	40-150%
	13C3-PFBS	70%	50-150%
	13C3-PFHxS	80%	50-150%
	13C8-PFOS	81%	50-150%
	13C8-FOSA	8%* ^b	30-140%
	d3-MeFOSAA	55%	50-150%
	13C2-6:2FTS	79%	50-150%
	13C2-8:2FTS	86%	50-150%

(a) Insufficient sample for MS/MSD.

(b) Outside control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-MS	Q46060.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132
OP69978-MSD	Q46061.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132
JC65355-3	Q46059.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132
JC65355-3	Q46177.D	1	05/11/18	NAF	05/08/18	OP69978	SQ1134

The QC reported here applies to the following samples:

Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	Compound	JC65355-3 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
375-22-4	Perfluorobutanoic acid	0.00314 ^{uj}	0.08	0.109	132*	0.08	0.105	127	4	70-130/30
2706-90-3	Perfluoropentanoic acid	0.00234 J	0.08	0.0951	116	0.08	0.0917	112	4	70-130/30
307-24-4	Perfluorohexanoic acid	0.00277 J	0.08	0.0899	109	0.08	0.0854	103	5	70-130/30
375-85-9	Perfluoroheptanoic acid	0.00157 J	0.08	0.0967	119	0.08	0.0906	111	7	71-130/30
335-67-1	Perfluorooctanoic acid	0.00718	0.08	0.104	121	0.08	0.0972	113	7	74-130/30
375-95-1	Perfluorononanoic acid	ND	0.08	0.0917	115	0.08	0.0834	104	9	76-130/30
335-76-2	Perfluorodecanoic acid	ND	0.08	0.0911	114	0.08	0.0847	106	7	70-130/30
2058-94-8	Perfluoroundecanoic acid	ND	0.08	0.103	129	0.08	0.0946	118	9	70-130/30
307-55-1	Perfluorododecanoic acid	ND	0.08	0.0985	123	0.08	0.0941	118	5	70-130/30
72629-94-8	Perfluorotridecanoic acid	ND	0.08	0.102	128	0.08	0.0967	121	5	70-139/30
376-06-7	Perfluorotetradecanoic acid	ND	0.08	0.0923	115	0.08	0.0854	107	8	70-130/30
375-73-5	Perfluorobutanesulfonic acid	0.00242	0.0708	0.0883	121	0.0708	0.0854	117	3	73-130/30
355-46-4	Perfluorohexanesulfonic acid	0.00716	0.0728	0.0941	119	0.0728	0.0862	109	9	74-130/30
375-92-8	Perfluoroheptanesulfonic acid	ND	0.076	0.0976	128	0.076	0.0881	116	10	74-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.00443 ^a	0.074	0.106	137*	0.074	0.107	139*	1	70-130/30
335-77-3	Perfluorodecanesulfonic acid	ND	0.0772	0.0898	116	0.0772	0.0739	96	19	70-130/30
754-91-6	PFOSA	ND	0.08	0.0986	123	0.08	0.0917	115	7	70-131/30
2355-31-9	MeFOSAA	ND	0.08	0.0948	119	0.08	0.0932	117	2	70-130/30
2991-50-6	EtFOSAA	ND	0.08	0.0948	119	0.08	0.0891	111	6	70-130/30
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.076	0.0939	124	0.076	0.0901	119	4	70-133/30
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0768	0.0962	125	0.0768	0.0903	118	6	70-130/30

CAS No.	ID Standard Recoveries	MS	MSD	JC65355-3	JC65355-3	Limits
	13C4-PFBA	62%	65%		56%	30-140%
	13C5-PFPeA	66%	68%	67%		40-140%
	13C5-PFHxA	74%	78%	76%		50-150%
	13C4-PFHpA	79%	85%	84%		50-150%
	13C8-PFOA	79%	89%	88%		50-150%
	13C9-PFNA	72%	85%	83%		50-150%
	13C6-PFDA	67%	77%	71%		50-150%
	13C7-PFUnDA	59%	62%	53%		50-150%
	13C2-PFDoDA	63%	59%	53%		50-150%
	13C2-PFTeDA	69%	63%	64%		40-150%
	13C3-PFBS	68%	72%	71%		50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP69978-MS	Q46060.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132
OP69978-MSD	Q46061.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132
JC65355-3	Q46059.D	1	05/10/18	NAF	05/08/18	OP69978	SQ1132
JC65355-3	Q46177.D	1	05/11/18	NAF	05/08/18	OP69978	SQ1134

The QC reported here applies to the following samples: Method: EPA 537M BY ID

JC65355-1, JC65355-2, JC65355-3, JC65355-4, JC65355-6, JC65355-7

CAS No.	ID Standard Recoveries	MS	MSD	JC65355-3	JC65355-3	Limits
13C3-PFHxS		66%	79%	76%		50-150%
13C8-PFOS		64%	64%		56%	50-150%
13C8-FOSA		35%	40%	35%		30-140%
d3-MeFOSAA		68%	76%	69%		50-150%
13C2-6:2FTS		92%	98%	93%		50-150%
13C2-8:2FTS		87%	87%	86%		50-150%

(a) Result is from Run #2.

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Check Std:	SQ1132-CC1132	Injection Date:	05/10/18
Lab File ID:	Q46053.D	Injection Time:	01:01
Instrument ID:	GCMSQ	Method:	EPA 537M BY ID

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal ^a	248766	7.24	87893	7.78
Check Std ^b	249996	7.31	88121	7.84
Upper Limit ^c	373149	8.31	131840	8.84
Lower Limit ^d	124383	6.31	43947	6.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
OP69978-BS				
OP69978-MB				
JC65355-1				
JC65355-2				
JC65355-3				
OP69978-MS				
OP69978-MSD				
JC65355-4				
JC65355-6				
JC65355-7				
SQ1132-ECC1132	249553	7.32	86947	7.86

IS 1 = 13C2-PFOA
IS 2 = 13C4-PFOS

(a) Initial Cal is: SQ1132-ICC1132 Q46027.D 05/09/18 16:26
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 1 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -1 minutes of check standard.

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Injection Standard Area Summary

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Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Check Std: SQ1137-CC1135	Injection Date: 05/16/18
Lab File ID: Q46336.D	Injection Time: 11:20
Instrument ID: GCMSQ	Method: EPA 537M BY ID

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal ^a	165376	7.31	78445	7.83
Check Std ^b	150272	7.28	73457	7.80
Upper Limit ^c	248064	8.28	117668	8.80
Lower Limit ^d	82688	6.28	39223	6.80

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
SQ1137-IBLK	162338	7.27	77722	7.80
OP70035-BS ^e				
OP70035-MB				
JC65355-6				
OP70055-BS ^e	153973	7.26	72773	7.79
OP70055-MB	152991	7.26	69845	7.79
ZZZZZZ	156947	7.26	70774	7.79
ZZZZZZ	152193	7.26	68651	7.79
SQ1137-ECC1135	133517	7.26	62503	7.79

IS 1 = 13C2-PFOA
IS 2 = 13C4-PFOS

- (a) Initial Cal is: SQ1135-ICC1135 Q46229.D 05/14/18 13:53
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 1 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -1 minutes of check standard.
(e) Insufficient sample for MS/MSD.

11.4.2
11

Isotope Dilution Standard Recovery Summary

Page 1 of 3

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Method: EPA 537M BY ID

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6	S7	S8
JC65355-1	Q46057.D	89	89	92	94	96	96	94	74
JC65355-2	Q46058.D	86	87	91	94	94	84	76	65
JC65355-3	Q46177.D	56							
JC65355-3	Q46059.D		67	76	84	88	83	71	53
JC65355-4	Q46178.D	58							
JC65355-4	Q46062.D	65	69	78	85	87	79	71	62
JC65355-6	Q46342.D								60
JC65355-6	Q46063.D	83	84	87	88	83	68	54	
JC65355-7	Q46179.D	61							
JC65355-7	Q46064.D	68	72	81	90	92	90	81	68
OP69978-BS	Q46055.D	84	85	88	90	90	84	80	60
OP69978-BS	Q46176.D	70	70	70	71	70	71	78	63
OP69978-MB	Q46056.D	88	88	92	95	91	77	66	57
OP69978-MS	Q46060.D	62	66	74	79	79	72	67	59
OP69978-MSD	Q46061.D	65	68	78	85	89	85	77	62
OP70035-BS	Q46340.D	45	46	49* a	56	60	62	68	63
OP70035-MB	Q46341.D	55	56	57	65	67	69	73	64
SQ1132-IBLK	Q46031.D	99	98	102	102	102	102	104	102

Isotope Dilution Standards

Recovery Limits

S1 = 13C4-PFBA	30-140%
S2 = 13C5-PFPeA	40-140%
S3 = 13C5-PFHxA	50-150%
S4 = 13C4-PFHpA	50-150%
S5 = 13C8-PFOA	50-150%
S6 = 13C9-PFNA	50-150%
S7 = 13C6-PFDA	50-150%
S8 = 13C7-PFUnDA	50-150%

(a) Outside control limits.

11.5.1
11

Isotope Dilution Standard Recovery Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Method: EPA 537M BY ID	Matrix: AQ
------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S9	S10	S11	S12	S13	S14	S15	S16
JC65355-1	Q46057.D	69	72	90	92	81	114	93	92
JC65355-2	Q46058.D	66	70	90	92	67	43	77	91
JC65355-3	Q46177.D					56			
JC65355-3	Q46059.D	53	64	71	76		35	69	93
JC65355-4	Q46178.D					58			
JC65355-4	Q46062.D	62	65	72	76	62	39	75	95
JC65355-6	Q46342.D	62				60			
JC65355-6	Q46063.D		55	85	76		60	55	81
JC65355-7	Q46179.D					65			
JC65355-7	Q46064.D	66	66	75	84	70	43	80	99
OP69978-BS	Q46055.D	53	58	89	86	68	86	78	91
OP69978-BS	Q46176.D	54	51	71	76	77	61	63	69
OP69978-MB	Q46056.D	58	65	91	84	56	76	71	88
OP69978-MS	Q46060.D	63	69	68	66	64	35	68	92
OP69978-MSD	Q46061.D	59	63	72	79	64	40	76	98
OP70035-BS	Q46340.D	60	66	70	80	81	8* a	55	79
OP70035-MB	Q46341.D	61	62	60	69	73	60	68	67
SQ1132-IBLK	Q46031.D	101	98	100	103	101	100	97	94

Isotope Dilution Standards	Recovery Limits
S9 = 13C2-PFDoDA	50-150%
S10 = 13C2-PFTeDA	40-150%
S11 = 13C3-PFBS	50-150%
S12 = 13C3-PFHxS	50-150%
S13 = 13C8-PFOS	50-150%
S14 = 13C8-FOSA	30-140%
S15 = d3-MeFOSAA	50-150%
S16 = 13C2-6:2FTS	50-150%

(a) Outside control limits.

Isotope Dilution Standard Recovery Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Method: EPA 537M BY ID	Matrix: AQ
------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S17
JC65355-1	Q46057.D	111
JC65355-2	Q46058.D	80
JC65355-3	Q46177.D	
JC65355-3	Q46059.D	86
JC65355-4	Q46178.D	
JC65355-4	Q46062.D	78
JC65355-6	Q46342.D	
JC65355-6	Q46063.D	59
JC65355-7	Q46179.D	
JC65355-7	Q46064.D	93
OP69978-BS	Q46055.D	106
OP69978-BS	Q46176.D	73
OP69978-MB	Q46056.D	72
OP69978-MS	Q46060.D	87
OP69978-MSD	Q46061.D	87
OP70035-BS	Q46340.D	86
OP70035-MB	Q46341.D	70
SQ1132-IBLK	Q46031.D	95

Isotope Dilution Standards	Recovery Limits
S17 = 13C2-8:2FTS	50-150%

Initial Calibration Summary

Page 1 of 2

Job Number: JC65355

Account: ALNJ SGS Dayton, NJ

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1132-ICC1132

Lab FileID: Q46027.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1132.batch.bin

Level ID : Calibration File

1 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9 : D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Compound	1	2	3	4	5	6	7	8	9	AvgRF	%RSD
1) 13C2-4:2FTS	5.02e+3	5.59e+3	5.66e+3	5.66e+3	5.65e+3	5.77e+3	5.93e+3	6.11e+3	6.58e+3	5.77e+3	7.302
2) 13C2-6:2FTS	8.95e+3	9.85e+3	9.92e+3	9.80e+3	9.89e+3	9.97e+3	1.01e+4	1.02e+4	1.08e+4	9.94e+3	4.745
3) 13C2-8:2FTS	5.64e+3	6.23e+3	6.11e+3	6.18e+3	6.22e+3	6.42e+3	6.58e+3	6.83e+3	7.47e+3	6.41e+3	8.065
4) 13C2-PFDoDA	2.75e+4	3.00e+4	2.97e+4	2.94e+4	2.92e+4	2.88e+4	2.90e+4	2.86e+4	2.75e+4	2.89e+4	3.059
6) 13C2-PFTeDA	1.69e+4	1.83e+4	1.88e+4	1.87e+4	1.86e+4	1.85e+4	1.78e+4	1.81e+4	1.76e+4	1.82e+4	3.435
7) 13C3-PFBS	1.47e+3	1.60e+3	1.65e+3	1.62e+3	1.60e+3	1.57e+3	1.53e+3	1.54e+3	1.47e+3	1.56e+3	4.076
8) 13C3-PFHxS	2.01e+3	2.20e+3	2.23e+3	2.19e+3	2.18e+3	2.14e+3	2.06e+3	2.08e+3	1.95e+3	2.12e+3	4.485
9) 13C4-PFBA	6.53e+3	7.05e+3	7.18e+3	7.08e+3	7.01e+3	6.97e+3	6.78e+3	6.83e+3	6.58e+3	6.89e+3	3.277
10) 13C4-PFHpA	1.69e+4	1.86e+4	1.87e+4	1.83e+4	1.83e+4	1.79e+4	1.73e+4	1.73e+4	1.59e+4	1.77e+4	5.268
12) 13C5-PFHxA	1.45e+4	1.56e+4	1.61e+4	1.57e+4	1.58e+4	1.53e+4	1.47e+4	1.47e+4	1.36e+4	1.51e+4	5.299
13) 13C5-PFPeA	6.69e+3	7.31e+3	7.39e+3	7.30e+3	7.23e+3	7.17e+3	6.94e+3	7.04e+3	6.67e+3	7.08e+3	2.764
14) 13C6-PFDA	2.31e+4	2.52e+4	2.53e+4	2.48e+4	2.50e+4	2.43e+4	2.33e+4	2.34e+4	2.15e+4	2.40e+4	7.572
15) 13C7-PFUnDA	2.81e+4	3.05e+4	3.04e+4	3.03e+4	3.00e+4	2.98e+4	2.98e+4	2.99e+4	2.83e+4	2.97e+4	4.816
16) 13C8-FOSA	9.78e+3	1.06e+4	1.10e+4	1.07e+4	1.06e+4	1.02e+4	9.60e+3	9.52e+3	8.62e+3	1.01e+4	3.402
17) 13C8-PFOA	1.97e+4	2.14e+4	2.22e+4	2.15e+4	2.14e+4	2.11e+4	2.02e+4	2.04e+4	1.90e+4	2.08e+4	4.017
18) 13C8-PFOS	2.76e+3	3.01e+3	2.97e+3	2.98e+3	2.95e+3	2.94e+3	2.86e+3	2.91e+3	2.73e+3	2.90e+3	3.862
19) 13C9-PFNA	1.98e+4	2.15e+4	2.17e+4	2.16e+4	2.12e+4	2.13e+4	2.05e+4	2.07e+4	1.94e+4	2.09e+4	0.076
23) d3-MeFOSAA	4.35e+3	4.76e+3	4.63e+3	4.63e+3	4.56e+3	4.57e+3	4.40e+3	4.35e+3	4.23e+3	4.50e+3	1.0002
5) 13C2-PFOA	-----ISTD-----										
24) M2-PFOA	1.0002	0.9996	0.9995	1.0005	1.0003	1.0019	1.0007	1.0007	1.0008	1.0005	0.9977
11) 13C4-PFOS	-----ISTD-----										
46) M4-PFOS	1.0003	0.9977	1.0000	1.0006	1.0001	1.0007	1.0002	1.0004	0.9988	0.9999	0.4319
47) M4-PFBA	-----ISTD-----										
28) PFBA	0.4521	0.4319	0.4766	0.4334	0.3976	0.4840	0.4764	0.4635	0.4780	0.4548	0.5302
48) M5-PFPeA	-----ISTD-----										
41) PFPeA	0.5698	0.5302	0.5155	0.4945	0.4599	0.5172	0.5246	0.4976	0.5199	0.5143	0.5155
49) M5-PFHxA	-----ISTD-----										
35) PFHxA	0.5260	0.4731	0.4788	0.4878	0.4386	0.5018	0.5053	0.4856	0.5022	0.4888	0.4731
50) M4-PFHpA	-----ISTD-----										
33) PFHpA	0.6043	0.5213	0.5345	0.5475	0.4935	0.5685	0.5699	0.5447	0.5749	0.5510	0.5213
51) M8-PFOA	-----ISTD-----										
39) PFOA	0.5890	0.5122	0.4936	0.4998	0.4626	0.5221	0.5238	0.5090	0.5200	0.5147	0.5122
52) M9-PFNA	-----ISTD-----										
37) PFNA	0.4104	0.3795	0.3976	0.3842	0.3729	0.4160	0.4221	0.4085	0.4267	0.4020	0.3795
53) M6-PFDA	-----ISTD-----										
30) PFDA	0.4932	0.4871	0.4785	0.4714	0.4429	0.4984	0.5091	0.4787	0.5041	0.4848	0.4871
54) M7-PFUnDA	-----ISTD-----										
32) PFDS	0.0612	0.0558	0.0584	0.0585	0.0527	0.0593	0.0601	0.0569	0.0599	0.0581	0.0558
45) PFUnDA	0.4554	0.4206	0.4240	0.4247	0.3875	0.4374	0.4476	0.4269	0.4482	0.4303	0.4206
55) M2-PFDoDA	-----ISTD-----										
31) PFDoDA	0.4648	0.4328	0.4319	0.4287	0.4038	0.4614	0.4622	0.4467	0.4636	0.4440	0.4328
56) M2-PFTeDA	-----ISTD-----										
43) PFTeDA	0.6251	0.5587	0.5325	0.5169	0.4759	0.5268	0.5379	0.5157	0.5332	0.5359	0.5587
44) PFTrDA	0.6368	0.6128	0.5905	0.5856	0.5490	0.6232	0.6499	0.6059	0.6318	0.6095	0.6128
57) M8-FOSA	-----ISTD-----										

Initial Calibration Summary

Job Number:

Account:

Project:

JC65355
ALNJ SGS Dayton, NJ
ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:

Lab FileID:

SQ1132-ICC1132
Q46027.D

26) FOSA	0.4016	0.3832	0.3648	0.3760	0.3442	0.3769	0.3976	0.3780	0.3878	0.3789	4.548
58) M3-PFBS	-----ISTD-----										
29) PFBS	1.1944	1.1270	1.0937	1.1173	1.0004	1.1685	1.1740	1.1188	1.1626	1.1285	5.151
42) PFPeS	1.0782	1.0265	1.0007	0.9924	0.9325	1.0388	1.0640	1.0055	1.0447	1.0204	4.296
59) M3-PFHxS	-----ISTD-----										
34) PFHpS	1.1009	1.1592	1.0824	1.1501	1.0339	1.1807	1.2031	1.1588	1.1963	1.1406	4.973
36) PFHxS	1.3168	1.2370	1.1967	1.2096	1.1077	1.2604	1.2685	1.2083	1.2599	1.2294	4.797
60) M8-PFOS	-----ISTD-----										
38) PFNS	1.2639	1.1330	1.1597	1.1074	1.0145	1.1518	1.1627	1.1154	1.1657	1.1416	5.753
40) PFOS	1.6798	1.4808	1.4540	1.5198	1.3734	1.5075	1.5446	1.4813	1.5572	1.5109	5.529
61) M2-4:2FTS	-----ISTD-----										
20) 4:2FTS	0.7685	0.6631	0.7019	0.6992	0.6355	0.7082	0.6750	0.6344	0.5877	0.6748	7.793
62) M2-6:2FTS	-----ISTD-----										
21) 6:2FTS	0.5231	0.5252	0.5119	0.4964	0.4588	0.4971	0.4838	0.4580	0.4204	0.4861	7.141
63) M2-8:2FTS	-----ISTD-----										
22) 8:2FTS	1.0059	0.9389	0.9734	0.9491	0.8609	0.9471	0.9030	0.8560	0.7850	0.9133	7.531
64) M3-MeFOSAA	-----ISTD-----										
25) EtFOSAA	0.4754	0.4001	0.3960	0.3858	0.3754	0.3789	0.3944	0.3830	0.3659	0.3950	8.111
27) MeFOSAA	0.4381	0.3992	0.3774	0.3888	0.3642	0.4044	0.4023	0.3875	0.3999	0.3958	5.196

*(value) - Average RF below (value)

Initial Calibration Verification

Page 1 of 2

Job Number: JC65355

Sample: SQ1132-ICV1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46032.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1132.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46032

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.585	-2.1	97.9
13C2-6:2FTS	20.000	19.597	-2.0	98.0
13C2-8:2FTS	20.000	19.973	-0.1	99.9
13C2-PFDoDA	20.000	19.697	-1.5	98.5
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.754	-1.2	98.8
13C3-PFBS	20.000	19.772	-1.1	98.9
13C3-PFHxS	20.000	20.062	0.3	100.3
13C4-PFBA	20.000	19.846	-0.8	99.2
13C4-PFHpA	20.000	19.929	-0.4	99.6
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.273	1.4	101.4
13C5-PFPeA	20.000	19.698	-1.5	98.5
13C6-PFDA	20.000	20.755	3.8	103.8
13C7-PFUnDA	20.000	19.903	-0.5	99.5
13C8-FOSA	20.000	19.405	-3.0	97.0
13C8-PFOA	20.000	20.205	1.0	101.0
13C8-PFOS	20.000	20.051	0.3	100.3
13C9-PFNA	20.000	20.407	2.0	102.0
4:2FTS	20.000	16.783	-16.1	83.9
6:2FTS	20.000	17.027	-14.9	85.1
8:2FTS	20.000	16.546	-17.3	82.7
d3-MeFOSAA	20.000	19.261	-3.7	96.3
M2-PFOA	20.000	20.017	0.1	100.1
EtFOSAA	20.000	18.327	-8.4	91.6
FOSA	20.000	17.960	-10.2	89.8
MeFOSAA	20.000	17.412	-12.9	87.1
PFBA	20.000	17.591	-12.0	88.0
PFBS	20.000	15.177	-24.1	75.9
PFDA	20.000	16.472	-17.6	82.4
PFDoDA	20.000	17.943	-10.3	89.7
PFDS	20.000	16.470	-17.6	82.4
PFHpA	20.000	17.653	-11.7	88.3
PFHpS	20.000	16.609	-17.0	83.0
PFHxA	20.000	15.925	-20.4	79.6
PFHxS	20.000	14.864	-25.7	74.3

Initial Calibration Verification

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1132-ICV1132
Lab FileID: Q46032.D

PFNA	20.000	15.671	-21.6	78.4
PFNS	20.000	16.548	-17.3	82.7
PFOA	20.000	17.650	-11.8	88.2
PFOS	20.000	18.448	-7.8	92.2
PFPeA	20.000	17.190	-14.0	86.0
PFPeS	20.000	16.233	-18.8	81.2
PFTeDA	20.000	16.671	-16.6	83.4
PFTrDA	20.000	18.803	-6.0	94.0
PFUnDA	20.000	17.867	-10.7	89.3
M4-PFOS	20.000	19.992	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1132-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46043.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1132.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46043

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	19.927	-0.4	99.6
13C2-6:2FTS	20.000	20.142	0.7	100.7
13C2-8:2FTS	20.000	21.676	8.4	108.4
13C2-PFDoDA	20.000	19.948	-0.3	99.7
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	20.277	1.4	101.4
13C3-PFBS	20.000	20.093	0.5	100.5
13C3-PFHxS	20.000	20.173	0.9	100.9
13C4-PFBA	20.000	19.937	-0.3	99.7
13C4-PFHpA	20.000	19.937	-0.3	99.7
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.028	0.1	100.1
13C5-PFPeA	20.000	19.765	-1.2	98.8
13C6-PFDA	20.000	21.023	5.1	105.1
13C7-PFUnDA	20.000	20.221	1.1	101.1
13C8-FOSA	20.000	17.548	-12.3	87.7
13C8-PFOA	20.000	20.352	1.8	101.8
13C8-PFOS	20.000	20.342	1.7	101.7
13C9-PFNA	20.000	20.458	2.3	102.3
4:2FTS	20.000	20.618	3.1	103.1
6:2FTS	20.000	20.280	1.4	101.4
8:2FTS	20.000	20.661	3.3	103.3
d3-MeFOSAA	20.000	21.011	5.1	105.1
M2-PFOA	20.000	19.992	0.0	100.0
EtFOSAA	20.000	20.563	2.8	102.8
FOSA	20.000	25.517	27.6	127.6
MeFOSAA	20.000	19.661	-1.7	98.3
PFBA	20.000	20.987	4.9	104.9
PFBS	20.000	19.975	-0.1	99.9
PFDA	20.000	20.175	0.9	100.9
PFDoDA	20.000	19.917	-0.4	99.6
PFDS	20.000	19.287	-3.6	96.4
PFHpA	20.000	20.137	0.7	100.7
PFHpS	20.000	20.908	4.5	104.5
PFHxA	20.000	20.033	0.2	100.2
PFHxS	20.000	19.840	-0.8	99.2

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1132-CC1132
Lab FileID: Q46043.D

PFNA	20.000	19.992	0.0	100.0
PFNS	20.000	19.718	-1.4	98.6
PFOA	20.000	20.076	0.4	100.4
PFOS	20.000	20.452	2.3	102.3
PFPeA	20.000	20.134	0.7	100.7
PFPeS	20.000	20.054	0.3	100.3
PFTeDA	20.000	20.177	0.9	100.9
PFTrDA	20.000	19.893	-0.5	99.5
PFUnDA	20.000	20.171	0.9	100.9
M4-PFOS	20.000	19.962	-0.2	99.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1132-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46053.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1132.batch.bin

Level ID: Calibration File

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2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46053

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.196	1.0	101.0
13C2-6:2FTS	20.000	20.514	2.6	102.6
13C2-8:2FTS	20.000	21.948	9.7	109.7
13C2-PFDoDA	20.000	20.090	0.5	100.5
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.692	-1.5	98.5
13C3-PFBS	20.000	20.098	0.5	100.5
13C3-PFHxS	20.000	20.339	1.7	101.7
13C4-PFBA	20.000	19.927	-0.4	99.6
13C4-PFHpA	20.000	20.278	1.4	101.4
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	19.995	0.0	100.0
13C5-PFPeA	20.000	19.636	-1.8	98.2
13C6-PFDA	20.000	20.496	2.5	102.5
13C7-PFUnDA	20.000	20.313	1.6	101.6
13C8-FOSA	20.000	23.885	19.4	119.4
13C8-PFOA	20.000	20.457	2.3	102.3
13C8-PFOS	20.000	20.127	0.6	100.6
13C9-PFNA	20.000	20.618	3.1	103.1
4:2FTS	20.000	20.593	3.0	103.0
6:2FTS	20.000	20.594	3.0	103.0
8:2FTS	20.000	20.670	3.3	103.3
d3-MeFOSAA	20.000	22.326	11.6	111.6
M2-PFOA	20.000	19.981	-0.1	99.9
EtFOSAA	20.000	20.887	4.4	104.4
FOSA	20.000	19.375	-3.1	96.9
MeFOSAA	20.000	20.146	0.7	100.7
PFBA	20.000	21.409	7.0	107.0
PFBS	20.000	19.838	-0.8	99.2
PFDA	20.000	20.176	0.9	100.9
PFDoDA	20.000	19.918	-0.4	99.6
PFDS	20.000	18.503	-7.5	92.5
PFHpA	20.000	19.942	-0.3	99.7
PFHpS	20.000	20.580	2.9	102.9
PFHxA	20.000	20.124	0.6	100.6
PFHxS	20.000	19.694	-1.5	98.5

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1132-CC1132
Lab FileID: Q46053.D

PFNA	20.000	19.824	-0.9	99.1
PFNS	20.000	19.439	-2.8	97.2
PFOA	20.000	20.197	1.0	101.0
PFOS	20.000	20.386	1.9	101.9
PFPeA	20.000	20.279	1.4	101.4
PFPeS	20.000	20.051	0.3	100.3
PFTeDA	20.000	20.404	2.0	102.0
PFTrDA	20.000	20.541	2.7	102.7
PFUnDA	20.000	20.170	0.9	100.9
M4-PFOS	20.000	19.986	-0.1	99.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1132-ECC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46065.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1132.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46065

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	20.450	2.3	102.3
13C2-6:2FTS	20.000	20.869	4.3	104.3
13C2-8:2FTS	20.000	23.275	16.4	116.4
13C2-PFDoDA	20.000	19.818	-0.9	99.1
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	18.605	-7.0	93.0
13C3-PFBS	20.000	20.086	0.4	100.4
13C3-PFHxS	20.000	20.219	1.1	101.1
13C4-PFBA	20.000	19.858	-0.7	99.3
13C4-PFHpA	20.000	20.481	2.4	102.4
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	20.263	1.3	101.3
13C5-PFPeA	20.000	19.869	-0.7	99.3
13C6-PFDA	20.000	21.023	5.1	105.1
13C7-PFUnDA	20.000	20.316	1.6	101.6
13C8-FOSA	20.000	26.233	31.2	131.2
13C8-PFOA	20.000	20.602	3.0	103.0
13C8-PFOS	20.000	19.895	-0.5	99.5
13C9-PFNA	20.000	20.313	1.6	101.6
4:2FTS	20.000	20.780	3.9	103.9
6:2FTS	20.000	20.631	3.2	103.2
8:2FTS	20.000	20.747	3.7	103.7
d3-MeFOSAA	20.000	23.328	16.6	116.6
M2-PFOA	20.000	19.991	0.0	100.0
EtFOSAA	20.000	20.888	4.4	104.4
FOSA	20.000	19.770	-1.1	98.9
MeFOSAA	20.000	20.873	4.4	104.4
PFBA	20.000	21.437	7.2	107.2
PFBS	20.000	19.867	-0.7	99.3
PFDA	20.000	20.275	1.4	101.4
PFDoDA	20.000	20.161	0.8	100.8
PFDS	20.000	18.252	-8.7	91.3
PFHpA	20.000	20.132	0.7	100.7
PFHpS	20.000	20.392	2.0	102.0
PFHxA	20.000	20.283	1.4	101.4
PFHxS	20.000	19.559	-2.2	97.8

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1132-ECC1132
Lab FileID: Q46065.D

PFNA	20.000	20.484	2.4	102.4
PFNS	20.000	20.030	0.2	100.2
PFOA	20.000	19.844	-0.8	99.2
PFOS	20.000	21.288	6.4	106.4
PFPeA	20.000	20.104	0.5	100.5
PFPeS	20.000	20.317	1.6	101.6
PFTeDA	20.000	21.284	6.4	106.4
PFTrDA	20.000	21.514	7.6	107.6
PFUnDA	20.000	20.224	1.1	101.1
M4-PFOS	20.000	19.967	-0.2	99.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1134-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46107.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1134.batch.bin

Level ID: Calibration File

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2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46107

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	17.809	-11.0	89.0
13C2-6:2FTS	20.000	18.212	-8.9	91.1
13C2-8:2FTS	20.000	17.437	-12.8	87.2
13C2-PFDoDA	20.000	16.408	-18.0	82.0
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	17.015	-14.9	85.1
13C3-PFBS	20.000	17.158	-14.2	85.8
13C3-PFHxS	20.000	18.206	-9.0	91.0
13C4-PFBA	20.000	17.021	-14.9	85.1
13C4-PFHpA	20.000	17.964	-10.2	89.8
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	17.607	-12.0	88.0
13C5-PFPeA	20.000	17.020	-14.9	85.1
13C6-PFDA	20.000	17.466	-12.7	87.3
13C7-PFUnDA	20.000	17.068	-14.7	85.3
13C8-FOSA	20.000	22.705	13.5	113.5
13C8-PFOA	20.000	18.087	-9.6	90.4
13C8-PFOS	20.000	17.898	-10.5	89.5
13C9-PFNA	20.000	17.922	-10.4	89.6
4:2FTS	20.000	20.609	3.0	103.0
6:2FTS	20.000	20.796	4.0	104.0
8:2FTS	20.000	20.641	3.2	103.2
d3-MeFOSAA	20.000	18.985	-5.1	94.9
M2-PFOA	20.000	19.990	0.0	100.0
EtFOSAA	20.000	20.724	3.6	103.6
FOSA	20.000	20.211	1.1	101.1
MeFOSAA	20.000	19.915	-0.4	99.6
PFBA	20.000	21.531	7.7	107.7
PFBS	20.000	20.620	3.1	103.1
PFDA	20.000	20.698	3.5	103.5
PFDoDA	20.000	20.184	0.9	100.9
PFDS	20.000	20.021	0.1	100.1
PFHpA	20.000	20.025	0.1	100.1
PFHpS	20.000	20.100	0.5	100.5
PFHxA	20.000	20.137	0.7	100.7
PFHxS	20.000	19.613	-1.9	98.1

Continuing Calibration Summary

Job Number:

Account:

Project:

JC65355
ALNJ SGS Dayton, NJ
ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:

Lab FileID:

SQ1134-CC1132
Q46107.D

PFNA	20.000	20.166	0.8	100.8
PFNS	20.000	19.832	-0.8	99.2
PFOA	20.000	20.735	3.7	103.7
PFOS	20.000	21.115	5.6	105.6
PFPeA	20.000	20.688	3.4	103.4
PFPeS	20.000	20.501	2.5	102.5
PFTeDA	20.000	20.250	1.2	101.2
PFTrDA	20.000	19.893	-0.5	99.5
PFUnDA	20.000	20.489	2.4	102.4
M4-PFOS	20.000	19.991	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1134-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46118.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1134.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46118

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	17.749	-11.3	88.7
13C2-6:2FTS	20.000	18.527	-7.4	92.6
13C2-8:2FTS	20.000	18.723	-6.4	93.6
13C2-PFDoDA	20.000	16.491	-17.5	82.5
13C2-PFOA	---	--ISTD--		
13C2-PFTEdA	20.000	16.864	-15.7	84.3
13C3-PFBS	20.000	17.685	-11.6	88.4
13C3-PFHxS	20.000	18.175	-9.1	90.9
13C4-PFBA	20.000	17.065	-14.7	85.3
13C4-PFHpA	20.000	17.911	-10.4	89.6
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	17.243	-13.8	86.2
13C5-PFPeA	20.000	16.836	-15.8	84.2
13C6-PFDA	20.000	17.689	-11.6	88.4
13C7-PFUnDA	20.000	16.674	-16.6	83.4
13C8-FOSA	20.000	17.671	-11.6	88.4
13C8-PFOA	20.000	18.129	-9.4	90.6
13C8-PFOS	20.000	17.344	-13.3	86.7
13C9-PFNA	20.000	18.309	-8.5	91.5
4:2FTS	20.000	20.980	4.9	104.9
6:2FTS	20.000	20.937	4.7	104.7
8:2FTS	20.000	20.496	2.5	102.5
d3-MeFOSAA	20.000	20.191	1.0	101.0
M2-PFOA	20.000	20.038	0.2	100.2
EtFOSAA	20.000	20.993	5.0	105.0
FOSA	20.000	26.048	# 30.2	130.2
MeFOSAA	20.000	20.398	2.0	102.0
PFBA	20.000	22.745	13.7	113.7
PFBS	20.000	20.313	1.6	101.6
PFDA	20.000	20.706	3.5	103.5
PFDoDA	20.000	20.199	1.0	101.0
PFDS	20.000	19.998	0.0	100.0
PFHpA	20.000	20.314	1.6	101.6
PFHpS	20.000	20.694	3.5	103.5
PFHxA	20.000	20.586	2.9	102.9
PFHxS	20.000	19.992	0.0	100.0

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1134-CC1132
Lab FileID: Q46118.D

PFNA	20.000	20.164	0.8	100.8
PFNS	20.000	20.170	0.9	100.9
PFOA	20.000	20.475	2.4	102.4
PFOS	20.000	21.828	9.1	109.1
PFPeA	20.000	20.891	4.5	104.5
PFPeS	20.000	20.104	0.5	100.5
PFTeDA	20.000	20.511	2.6	102.6
PFTrDA	20.000	20.101	0.5	100.5
PFUnDA	20.000	20.539	2.7	102.7
M4-PFOS	20.000	19.937	-0.3	99.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1134-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46174.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1134.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46174

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	16.013	-19.9	80.1
13C2-6:2FTS	20.000	15.764	-21.2	78.8
13C2-8:2FTS	20.000	15.846	-20.8	79.2
13C2-PFDoDA	20.000	12.833	-35.8	64.2
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	12.149	-39.3	60.7
13C3-PFBS	20.000	15.769	-21.2	78.8
13C3-PFHxS	20.000	16.584	-17.1	82.9
13C4-PFBA	20.000	15.803	-21.0	79.0
13C4-PFHpA	20.000	16.352	-18.2	81.8
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	15.630	-21.9	78.1
13C5-PFPeA	20.000	15.628	-21.9	78.1
13C6-PFDA	20.000	16.301	-18.5	81.5
13C7-PFUnDA	20.000	14.607	-27.0	73.0
13C8-FOSA	20.000	14.756	-26.2	73.8
13C8-PFOA	20.000	16.237	-18.8	81.2
13C8-PFOS	20.000	16.509	-17.5	82.5
13C9-PFNA	20.000	16.392	-18.0	82.0
4:2FTS	20.000	20.755	3.8	103.8
6:2FTS	20.000	20.987	4.9	104.9
8:2FTS	20.000	20.839	4.2	104.2
d3-MeFOSAA	20.000	13.036	-34.8	65.2
M2-PFOA	20.000	20.004	0.0	100.0
EtFOSAA	20.000	21.257	6.3	106.3
FOSA	20.000	20.116	0.6	100.6
MeFOSAA	20.000	20.698	3.5	103.5
PFBA	20.000	19.127	-4.4	95.6
PFBS	20.000	19.965	-0.2	99.8
PFDA	20.000	20.616	3.1	103.1
PFDoDA	20.000	20.266	1.3	101.3
PFDS	20.000	23.397	17.0	117.0
PFHpA	20.000	19.867	-0.7	99.3
PFHpS	20.000	21.963	9.8	109.8
PFHxA	20.000	20.490	2.5	102.5
PFHxS	20.000	20.738	3.7	103.7

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1134-CC1132
Lab FileID: Q46174.D

PFNA	20.000	20.407	2.0	102.0
PFNS	20.000	21.198	6.0	106.0
PFOA	20.000	19.971	-0.1	99.9
PFOS	20.000	20.683	3.4	103.4
PFPeA	20.000	20.195	1.0	101.0
PFPeS	20.000	21.783	8.9	108.9
PFTeDA	20.000	20.088	0.4	100.4
PFTrDA	20.000	20.370	1.9	101.9
PFUnDA	20.000	20.486	2.4	102.4
M4-PFOS	20.000	20.012	0.1	100.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1134-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46180.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1134.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46180

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	15.691	-21.5	78.5
13C2-6:2FTS	20.000	15.180	-24.1	75.9
13C2-8:2FTS	20.000	15.305	-23.5	76.5
13C2-PFDoDA	20.000	12.139	-39.3	60.7
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	11.269	-43.7	56.3
13C3-PFBS	20.000	16.020	-19.9	80.1
13C3-PFHxS	20.000	16.770	-16.1	83.9
13C4-PFBA	20.000	15.683	-21.6	78.4
13C4-PFHpA	20.000	15.427	-22.9	77.1
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	15.152	-24.2	75.8
13C5-PFPeA	20.000	15.417	-22.9	77.1
13C6-PFDA	20.000	15.712	-21.4	78.6
13C7-PFUnDA	20.000	13.903	-30.5	69.5
13C8-FOSA	20.000	13.592	-32.0	68.0
13C8-PFOA	20.000	15.413	-22.9	77.1
13C8-PFOS	20.000	16.577	-17.1	82.9
13C9-PFNA	20.000	15.565	-22.2	77.8
4:2FTS	20.000	20.476	2.4	102.4
6:2FTS	20.000	20.973	4.9	104.9
8:2FTS	20.000	20.680	3.4	103.4
d3-MeFOSAA	20.000	13.918	-30.4	69.6
M2-PFOA	20.000	19.980	-0.1	99.9
EtFOSAA	20.000	21.427	7.1	107.1
FOSA	20.000	20.465	2.3	102.3
MeFOSAA	20.000	19.988	-0.1	99.9
PFBA	20.000	19.187	-4.1	95.9
PFBS	20.000	20.257	1.3	101.3
PFDA	20.000	20.124	0.6	100.6
PFDoDA	20.000	20.122	0.6	100.6
PFDS	20.000	24.610	23.1	123.1
PFHpA	20.000	19.822	-0.9	99.1
PFHpS	20.000	21.902	9.5	109.5
PFHxA	20.000	20.458	2.3	102.3
PFHxS	20.000	20.497	2.5	102.5

Continuing Calibration Summary

Job Number:

Account:

Project:

JC65355
ALNJ SGS Dayton, NJ
ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:

Lab FileID:

SQ1134-CC1132
Q46180.D

PFNA	20.000	20.396	2.0	102.0
PFNS	20.000	21.660	8.3	108.3
PFOA	20.000	20.626	3.1	103.1
PFOS	20.000	20.937	4.7	104.7
PFPeA	20.000	20.154	0.8	100.8
PFPeS	20.000	21.388	6.9	106.9
PFTeDA	20.000	20.284	1.4	101.4
PFTrDA	20.000	20.545	2.7	102.7
PFUnDA	20.000	20.219	1.1	101.1
M4-PFOS	20.000	19.934	-0.3	99.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1134-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46184.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1134.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46184

Type : QC

Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	15.786	-21.1	78.9
13C2-6:2FTS	20.000	15.833	-20.8	79.2
13C2-8:2FTS	20.000	16.315	-18.4	81.6
13C2-PFDoDA	20.000	13.515	-32.4	67.6
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	13.147	-34.3	65.7
13C3-PFBS	20.000	16.663	-16.7	83.3
13C3-PFHxS	20.000	18.107	-9.5	90.5
13C4-PFBA	20.000	16.687	-16.6	83.4
13C4-PFHpA	20.000	17.177	-14.1	85.9
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	16.710	-16.4	83.6
13C5-PFPeA	20.000	16.536	-17.3	82.7
13C6-PFDA	20.000	17.632	-11.8	88.2
13C7-PFUnDA	20.000	15.127	-24.4	75.6
13C8-FOSA	20.000	15.791	-21.0	79.0
13C8-PFOA	20.000	16.998	-15.0	85.0
13C8-PFOS	20.000	17.541	-12.3	87.7
13C9-PFNA	20.000	17.315	-13.4	86.6
4:2FTS	1.000	1.032	3.2	103.2
6:2FTS	1.000	1.036	3.6	103.6
8:2FTS	1.000	0.962	-3.8	96.2
d3-MeFOSAA	20.000	13.997	-30.0	70.0
M2-PFOA	20.000	20.000	0.0	100.0
EtFOSAA	1.000	1.066	6.6	106.6
FOSA	1.000	0.884	-11.6	88.4
MeFOSAA	1.000	1.068	6.8	106.8
PFBA	1.000	0.926	-7.4	92.6
PFBS	1.000	0.983	-1.7	98.3
PFDA	1.000	0.940	-6.0	94.0
PFDoDA	1.000	0.947	-5.3	94.7
PFDS	1.000	1.074	7.4	107.4
PFHpA	1.000	0.945	-5.5	94.5
PFHpS	1.000	0.941	-5.9	94.1
PFHxA	1.000	0.934	-6.6	93.4
PFHxS	1.000	1.003	0.3	100.3

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1134-CC1132
Lab FileID: Q46184.D

PFNA	1.000	0.904	-9.6	90.4
PFNS	1.000	1.018	1.8	101.8
PFOA	1.000	1.000	0.0	100.0
PFOS	1.000	1.036	3.6	103.6
PFPeA	1.000	0.962	-3.8	96.2
PFPeS	1.000	1.031	3.1	103.1
PFTeDA	1.000	1.043	4.3	104.3
PFTrDA	1.000	0.947	-5.3	94.7
PFUnDA	1.000	0.952	-4.8	95.2
M4-PFOS	20.000	20.000	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1134-CC1132

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46185.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0509_PFC_ID_SQ1132\SQ1134.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46022.d
2:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46023.d
3:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46024.d
4:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46025.d
5:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46026.d
6:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46027.d
7:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46028.d
8:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46029.d
9:D:\MassHunter\Data\0509_PFC_ID_SQ1132\Q46030.d

Data File: Q46185

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	16.089	-19.6	80.4
13C2-6:2FTS	20.000	16.327	-18.4	81.6
13C2-8:2FTS	20.000	17.168	-14.2	85.8
13C2-PFDoDA	20.000	13.446	-32.8	67.2
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	13.035	-34.8	65.2
13C3-PFBS	20.000	16.259	-18.7	81.3
13C3-PFHxS	20.000	17.141	-14.3	85.7
13C4-PFBA	20.000	16.358	-18.2	81.8
13C4-PFHpA	20.000	16.588	-17.1	82.9
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	16.085	-19.6	80.4
13C5-PFPeA	20.000	15.969	-20.2	79.8
13C6-PFDA	20.000	16.988	-15.1	84.9
13C7-PFUnDA	20.000	15.067	-24.7	75.3
13C8-FOSA	20.000	15.531	-22.3	77.7
13C8-PFOA	20.000	16.658	-16.7	83.3
13C8-PFOS	20.000	17.461	-12.7	87.3
13C9-PFNA	20.000	16.574	-17.1	82.9
4:2FTS	20.000	20.908	4.5	104.5
6:2FTS	20.000	20.771	3.9	103.9
8:2FTS	20.000	20.693	3.5	103.5
d3-MeFOSAA	20.000	13.641	-31.8	68.2
M2-PFOA	20.000	19.837	-0.8	99.2
EtFOSAA	20.000	20.698	3.5	103.5
FOSA	20.000	19.923	-0.4	99.6
MeFOSAA	20.000	20.520	2.6	102.6
PFBA	20.000	20.779	3.9	103.9
PFBS	20.000	20.119	0.6	100.6
PFDA	20.000	20.771	3.9	103.9
PFDoDA	20.000	20.295	1.5	101.5
PFDS	20.000	23.076	15.4	115.4
PFHpA	20.000	19.963	-0.2	99.8
PFHpS	20.000	21.696	8.5	108.5
PFHxA	20.000	20.229	1.1	101.1
PFHxS	20.000	20.310	1.5	101.5

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1134-CC1132
Lab FileID: Q46185.D

PFNA	20.000	19.969	-0.2	99.8
PFNS	20.000	20.594	3.0	103.0
PFOA	20.000	20.777	3.9	103.9
PFOS	20.000	20.560	2.8	102.8
PFPeA	20.000	19.970	-0.2	99.8
PFPeS	20.000	21.132	5.7	105.7
PFTeDA	20.000	20.068	0.3	100.3
PFTrDA	20.000	20.039	0.2	100.2
PFUnDA	20.000	20.324	1.6	101.6
M4-PFOS	20.000	20.004	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Initial Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1135-ICC1135

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46229.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0514_PFC_ID_SQ1135\SQ1135.batch.bin

Level ID : Calibration File

- 1 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46224.d
- 2 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46225.d
- 3 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46226.d
- 4 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46227.d
- 5 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46228.d
- 6 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46229.d
- 7 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46230.d
- 8 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46231.d
- 9 : D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46232.d

Compound	1	2	3	4	5	6	7	8	9	AvgRF	%RSD
1) 13C2-4:2FTS	4.30e+3	4.72e+3	4.87e+3	4.77e+3	4.73e+3	4.51e+3	4.75e+3	4.94e+3	5.35e+3	4.77e+3	6.053
2) 13C2-6:2FTS	6.22e+3	6.69e+3	6.83e+3	6.67e+3	6.64e+3	6.35e+3	6.50e+3	6.77e+3	7.09e+3	6.64e+3	3.909
3) 13C2-8:2FTS	2.25e+3	2.42e+3	2.46e+3	2.45e+3	2.42e+3	2.33e+3	2.45e+3	2.55e+3	2.81e+3	2.46e+3	6.382
4) 13C2-PFDoDA	1.18e+4	1.27e+4	1.30e+4	1.28e+4	1.26e+4	1.19e+4	1.20e+4	1.21e+4	1.23e+4	3.606	3.606
6) 13C2-PFTeDA	8.88e+3	9.56e+3	9.63e+3	9.42e+3	9.27e+3	8.64e+3	8.66e+3	9.07e+3	8.80e+3	9.10e+3	4.192
7) 13C3-PFBS	1.82e+3	1.96e+3	1.97e+3	1.90e+3	1.87e+3	1.71e+3	1.71e+3	1.70e+3	1.60e+3	1.81e+3	7.257
8) 13C3-PFHxS	2.33e+3	2.46e+3	2.51e+3	2.43e+3	2.37e+3	2.21e+3	2.18e+3	2.20e+3	2.06e+3	2.30e+3	6.564
9) 13C4-PFBA	7.88e+3	8.39e+3	8.46e+3	8.16e+3	7.95e+3	7.37e+3	7.30e+3	7.42e+3	6.98e+3	7.77e+3	6.731
10) 13C4-PFHpA	1.52e+4	1.64e+4	1.68e+4	1.63e+4	1.61e+4	1.48e+4	1.46e+4	1.49e+4	1.40e+4	1.55e+4	6.283
12) 13C5-PFHxA	1.41e+4	1.54e+4	1.55e+4	1.51e+4	1.47e+4	1.36e+4	1.33e+4	1.34e+4	1.26e+4	1.42e+4	7.251
13) 13C5-PFPeA	7.45e+3	8.04e+3	8.08e+3	7.87e+3	7.74e+3	7.05e+3	7.03e+3	7.20e+3	6.95e+3	7.49e+3	6.052
14) 13C6-PFDA	1.20e+4	1.29e+4	1.32e+4	1.29e+4	1.27e+4	1.18e+4	1.15e+4	1.17e+4	1.11e+4	1.22e+4	11.11
15) 13C7-PFUnDA	1.30e+4	1.39e+4	1.40e+4	1.33e+4	1.37e+4	1.23e+4	1.24e+4	1.31e+4	1.22e+4	1.31e+4	8.415
16) 13C8-FOSA	1.13e+4	1.17e+4	1.24e+4	1.21e+4	1.19e+4	1.08e+4	1.07e+4	1.06e+4	9.36e+3	1.12e+4	6.273
17) 13C8-PFOA	1.55e+4	1.67e+4	1.70e+4	1.67e+4	1.64e+4	1.51e+4	1.49e+4	1.51e+4	1.42e+4	1.57e+4	6.217
18) 13C8-PFOS	2.91e+3	3.09e+3	3.11e+3	3.08e+3	2.99e+3	2.78e+3	2.77e+3	2.71e+3	2.63e+3	2.90e+3	5.539
19) 13C9-PFNA	1.40e+4	1.51e+4	1.50e+4	1.48e+4	1.45e+4	1.35e+4	1.33e+4	1.36e+4	1.30e+4	1.41e+4	4.586
23) d3-MeFOSAA	2.51e+3	2.75e+3	2.72e+3	2.72e+3	2.68e+3	2.49e+3	2.49e+3	2.52e+3	2.47e+3	2.59e+3	0.128
5) 13C2-PFOA	-----ISTD-----										
24) M2-PFOA	0.9994	1.0020	0.9996	0.9999	1.0012	0.9981	1.0008	0.9984	1.0008	1.0000	0.166
11) 13C4-PFOS	-----ISTD-----										
46) M4-PFOS	1.0008	1.0008	0.9998	0.9975	1.0030	1.0013	0.9987	0.9987	0.9995	1.0000	5.590
47) M4-PFBA	-----ISTD-----										
28) PFBA	0.4922	0.4789	0.4800	0.4736	0.4178	0.4926	0.4892	0.4548	0.4386	0.4686	7.085
48) M5-PFPeA	-----ISTD-----										
41) PFPeA	0.5854	0.5199	0.5015	0.4902	0.4515	0.5265	0.5244	0.4909	0.5140	0.5116	4.203
49) M5-PFHxA	-----ISTD-----										
35) PFHxA	0.5214	0.4900	0.4978	0.5116	0.4703	0.5324	0.5315	0.5082	0.5315	0.5105	5.336
50) M4-PFHpA	-----ISTD-----										
33) PFHpA	0.5896	0.5283	0.5431	0.5476	0.4933	0.5775	0.5706	0.5469	0.5719	0.5521	7.044
51) M8-PFOA	-----ISTD-----										
39) PFOA	0.6019	0.5096	0.5190	0.5069	0.4611	0.5221	0.5286	0.5066	0.5250	0.5201	5.308
52) M9-PFNA	-----ISTD-----										
37) PFNA	0.4016	0.4061	0.4217	0.4344	0.3952	0.4556	0.4495	0.4285	0.4517	0.4271	7.328
53) M6-PFDA	-----ISTD-----										
30) PFDA	0.6017	0.4979	0.4938	0.5169	0.4649	0.5290	0.5376	0.5126	0.5389	0.5215	5.379
54) M7-PFUnDA	-----ISTD-----										
32) PFDS	0.1181	0.1195	0.1201	0.1171	0.1013	0.1217	0.1198	0.1124	0.1183	0.1165	4.851
45) PFUnDA	0.4674	0.4335	0.4563	0.4321	0.3993	0.4603	0.4580	0.4331	0.4576	0.4442	6.528
55) M2-PFDoDA	-----ISTD-----										
31) PFDoDA	0.4419	0.3919	0.4194	0.4235	0.3868	0.4577	0.4623	0.4398	0.4590	0.4314	7.523
56) M2-PFTeDA	-----ISTD-----										
43) PFTeDA	0.6494	0.5620	0.5478	0.5473	0.4896	0.5593	0.5605	0.5307	0.5554	0.5558	4.826
44) PFTrDA	0.5831	0.5365	0.5434	0.5487	0.4950	0.5650	0.5717	0.5332	0.5672	0.5493	
57) M8-FOSA	-----ISTD-----										

Initial Calibration Summary

Job Number:

Account:

Project:

JC65355
ALNJ SGS Dayton, NJ
ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample:

Lab FileID:

SQ1135-ICC1135
Q46229.D

26) FOSA	0.3991	0.3413	0.3520	0.3585	0.3288	0.3826	0.3811	0.3613	0.3807	0.3651	6.187
58) M3-PFBS	-----ISTD-----										
29) PFBS	1.2224	1.0923	1.1280	1.1344	1.0389	1.1895	1.1756	1.1415	1.1795	1.1447	4.841
42) PFPeS	0.9380	0.8576	0.9474	0.9663	0.8610	1.0040	1.0008	0.9808	1.0202	0.9529	6.229
59) M3-PFHxS	-----ISTD-----										
34) PFHpS	1.1173	1.0822	1.1197	1.1179	1.0168	1.1700	1.1797	1.1328	1.1752	1.1235	4.588
36) PFHxS	1.3095	1.1672	1.1997	1.1659	1.0781	1.2403	1.2278	1.1788	1.2390	1.2007	5.386
60) M8-PFOS	-----ISTD-----										
38) PFNS	1.1497	1.0348	1.0472	1.0640	0.9625	1.1013	1.0890	1.0859	1.0797	1.0682	4.837
40) PFOS	1.9512	1.6261	1.6565	1.5902	1.4622	1.6497	1.6283	1.6328	1.6639	1.6512	7.755
61) M2-4:2FTS	-----ISTD-----										
20) 4:2FTS	0.7077	0.6955	0.7005	0.7082	0.6433	0.7104	0.6731	0.6300	0.5867	0.6728	6.493
62) M2-6:2FTS	-----ISTD-----										
21) 6:2FTS	0.5619	0.4726	0.5074	0.5123	0.4529	0.5074	0.4846	0.4527	0.4192	0.4857	8.682
63) M2-8:2FTS	-----ISTD-----										
22) 8:2FTS	1.0747	0.9763	0.9242	0.9366	0.8336	0.9402	0.8841	0.8374	0.7732	0.9089	9.825
64) M3-MeFOSAA	-----ISTD-----										
25) EtFOSAA	0.3670	0.3899	0.3420	0.3429	0.3114	0.3679	0.3538	0.3349	0.3430	0.3503	6.459
27) MeFOSAA	0.4307	0.3736	0.3670	0.3739	0.3705	0.4309	0.4098	0.3891	0.4058	0.3946	6.473

*(value) - Average RF below (value)

Initial Calibration Verification

Page 1 of 2

Job Number: JC65355

Sample: SQ1135-ICV1135

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46234.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0514_PFC_ID_SQ1135\SQ1135.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46224.d
2:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46225.d
3:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46226.d
4:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46227.d
5:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46228.d
6:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46229.d
7:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46230.d
8:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46231.d
9:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46232.d

Data File: Q46234

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	18.965	-5.2	94.8
13C2-6:2FTS	20.000	18.725	-6.4	93.6
13C2-8:2FTS	20.000	18.892	-5.5	94.5
13C2-PFDoDA	20.000	20.049	0.2	100.2
13C2-PFOA	---	--ISTD--		
13C2-PFTeDA	20.000	19.988	-0.1	99.9
13C3-PFBS	20.000	18.767	-6.2	93.8
13C3-PFHxS	20.000	19.480	-2.6	97.4
13C4-PFBA	20.000	18.265	-8.7	91.3
13C4-PFHpA	20.000	19.790	-1.0	99.0
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	19.651	-1.7	98.3
13C5-PFPeA	20.000	19.207	-4.0	96.0
13C6-PFDA	20.000	20.446	2.2	102.2
13C7-PFUnDA	20.000	20.423	2.1	102.1
13C8-FOSA	20.000	21.370	6.8	106.8
13C8-PFOA	20.000	19.656	-1.7	98.3
13C8-PFOS	20.000	19.668	-1.7	98.3
13C9-PFNA	20.000	19.904	-0.5	99.5
4:2FTS	20.000	19.052	-4.7	95.3
6:2FTS	20.000	19.062	-4.7	95.3
8:2FTS	20.000	16.758	-16.2	83.8
d3-MeFOSAA	20.000	19.339	-3.3	96.7
M2-PFOA	20.000	20.003	0.0	100.0
EtFOSAA	20.000	17.885	-10.6	89.4
FOSA	20.000	17.907	-10.5	89.5
MeFOSAA	20.000	17.263	-13.7	86.3
PFBA	20.000	16.136	-19.3	80.7
PFBS	20.000	15.384	-23.1	76.9
PFDA	20.000	16.203	-19.0	81.0
PFDoDA	20.000	17.733	-11.3	88.7
PFDS	20.000	15.865	-20.7	79.3
PFHpA	20.000	17.512	-12.4	87.6
PFHpS	20.000	16.686	-16.6	83.4
PFHxA	20.000	15.943	-20.3	79.7
PFHxS	20.000	14.891	-25.5	74.5

Initial Calibration Verification

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1135-ICV1135
Lab FileID: Q46234.D

PFNA	20.000	16.334	-18.3	81.7
PFNS	20.000	16.776	-16.1	83.9
PFOA	20.000	17.916	-10.4	89.6
PFOS	20.000	17.208	-14.0	86.0
PFPeA	20.000	17.145	-14.3	85.7
PFPeS	20.000	16.866	-15.7	84.3
PFTeDA	20.000	16.554	-17.2	82.8
PFTrDA	20.000	18.668	-6.7	93.3
PFUnDA	20.000	17.712	-11.4	88.6
M4-PFOS	20.000	19.984	-0.1	99.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1137-CC1135

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46336.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0516_PFC_ID_SQ1137\SQ1137.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46224.d
2:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46225.d
3:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46226.d
4:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46227.d
5:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46228.d
6:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46229.d
7:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46230.d
8:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46231.d
9:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46232.d

Data File: Q46336

Type : QC

Level : 2

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	14.419	-27.9	72.1
13C2-6:2FTS	20.000	15.233	-23.8	76.2
13C2-8:2FTS	20.000	15.599	-22.0	78.0
13C2-PFDoDA	20.000	17.671	-11.6	88.4
13C2-PFOA	---	--ISTD--		
13C2-PFTEdA	20.000	16.522	-17.4	82.6
13C3-PFBS	20.000	14.586	-27.1	72.9
13C3-PFHxS	20.000	16.636	-16.8	83.2
13C4-PFBA	20.000	14.159	-29.2	70.8
13C4-PFHpA	20.000	16.187	-19.1	80.9
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	14.782	-26.1	73.9
13C5-PFPeA	20.000	14.448	-27.8	72.2
13C6-PFDA	20.000	17.894	-10.5	89.5
13C7-PFUnDA	20.000	17.111	-14.4	85.6
13C8-FOSA	20.000	20.611	3.1	103.1
13C8-PFOA	20.000	16.398	-18.0	82.0
13C8-PFOS	20.000	16.746	-16.3	83.7
13C9-PFNA	20.000	17.009	-15.0	85.0
4:2FTS	1.000	1.082	8.2	108.2
6:2FTS	1.000	1.117	11.7	111.7
8:2FTS	1.000	1.176	17.6	117.6
d3-MeFOSAA	20.000	17.484	-12.6	87.4
M2-PFOA	20.000	20.015	0.1	100.1
EtFOSAA	1.000	1.227	22.7	122.7
FOSA	1.000	0.921	-7.9	92.1
MeFOSAA	1.000	1.033	3.3	103.3
PFBA	1.000	0.913	-8.7	91.3
PFBS	1.000	0.925	-7.5	92.5
PFDA	1.000	0.944	-5.6	94.4
PFDoDA	1.000	0.999	-0.1	99.9
PFDS	1.000	0.931	-6.9	93.1
PFHpA	1.000	0.872	-12.8	87.2
PFHpS	1.000	0.927	-7.3	92.7
PFHxA	1.000	0.977	-2.3	97.7
PFHxS	1.000	0.967	-3.3	96.7

Continuing Calibration Summary

Job Number: JC65355 **Sample:** SQ1137-CC1135
Account: ALNJ SGS Dayton, NJ **Lab FileID:** Q46336.D
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

PFNA	1.000	0.867	-13.3	86.7
PFNS	1.000	0.976	-2.4	97.6
PFOA	1.000	0.991	-0.9	99.1
PFOS	1.000	0.971	-2.9	97.1
PFPeA	1.000	1.027	2.7	102.7
PFPeS	1.000	1.016	1.6	101.6
PFTeDA	1.000	0.987	-1.3	98.7
PFTrDA	1.000	0.920	-8.0	92.0
PFUnDA	1.000	0.965	-3.5	96.5
M4-PFOS	20.000	20.006	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1137-CC1135

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46337.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0516_PFC_ID_SQ1137\SQ1137.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46224.d
2:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46225.d
3:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46226.d
4:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46227.d
5:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46228.d
6:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46229.d
7:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46230.d
8:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46231.d
9:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46232.d

Data File: Q46337

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	14.413	-27.9	72.1
13C2-6:2FTS	20.000	15.100	-24.5	75.5
13C2-8:2FTS	20.000	15.258	-23.7	76.3
13C2-PFDoDA	20.000	15.563	-22.2	77.8
13C2-PFOA	---	--ISTD--		
13C2-PFTEdA	20.000	15.923	-20.4	79.6
13C3-PFBS	20.000	13.781	-31.1	68.9
13C3-PFHxS	20.000	15.287	-23.6	76.4
13C4-PFBA	20.000	13.241	-33.8	66.2
13C4-PFHpA	20.000	15.443	-22.8	77.2
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	13.873	-30.6	69.4
13C5-PFPeA	20.000	13.707	-31.5	68.5
13C6-PFDA	20.000	16.052	-19.7	80.3
13C7-PFUnDA	20.000	15.251	-23.7	76.3
13C8-FOSA	20.000	18.490	-7.5	92.5
13C8-PFOA	20.000	15.508	-22.5	77.5
13C8-PFOS	20.000	15.756	-21.2	78.8
13C9-PFNA	20.000	16.362	-18.2	81.8
4:2FTS	20.000	23.086	15.4	115.4
6:2FTS	20.000	23.249	16.2	116.2
8:2FTS	20.000	22.980	14.9	114.9
d3-MeFOSAA	20.000	16.162	-19.2	80.8
M2-PFOA	20.000	20.013	0.1	100.1
EtFOSAA	20.000	20.357	1.8	101.8
FOSA	20.000	20.273	1.4	101.4
MeFOSAA	20.000	19.897	-0.5	99.5
PFBA	20.000	18.287	-8.6	91.4
PFBS	20.000	19.832	-0.8	99.2
PFDA	20.000	20.172	0.9	100.9
PFDoDA	20.000	19.784	-1.1	98.9
PFDS	20.000	20.300	1.5	101.5
PFHpA	20.000	19.420	-2.9	97.1
PFHpS	20.000	20.671	3.4	103.4
PFHxA	20.000	20.435	2.2	102.2
PFHxS	20.000	19.950	-0.2	99.8

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1137-CC1135
Lab FileID: Q46337.D

PFNA	20.000	19.408	-3.0	97.0
PFNS	20.000	20.614	3.1	103.1
PFOA	20.000	20.131	0.7	100.7
PFOS	20.000	19.481	-2.6	97.4
PFPeA	20.000	20.284	1.4	101.4
PFPeS	20.000	21.913	9.6	109.6
PFTeDA	20.000	20.194	1.0	101.0
PFTrDA	20.000	19.611	-1.9	98.1
PFUnDA	20.000	19.827	-0.9	99.1
M4-PFOS	20.000	20.001	0.0	100.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%

Continuing Calibration Summary

Page 1 of 2

Job Number: JC65355

Sample: SQ1137-ECC1135

Account: ALNJ SGS Dayton, NJ

Lab FileID: Q46347.D

Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Continuing Calibration Report

Batch: D:\MassHunter\Data\0516_PFC_ID_SQ1137\SQ1137.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46224.d
2:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46225.d
3:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46226.d
4:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46227.d
5:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46228.d
6:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46229.d
7:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46230.d
8:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46231.d
9:D:\MassHunter\Data\0514_PFC_ID_SQ1135\Q46232.d

Data File: Q46347

Type : QC

Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	20.000	14.050	-29.7	70.3
13C2-6:2FTS	20.000	14.837	-25.8	74.2
13C2-8:2FTS	20.000	14.961	-25.2	74.8
13C2-PFDoDA	20.000	15.140	-24.3	75.7
13C2-PFOA	---	--ISTD--		
13C2-PFTEdA	20.000	15.444	-22.8	77.2
13C3-PFBS	20.000	13.133	-34.3	65.7
13C3-PFHxS	20.000	15.066	-24.7	75.3
13C4-PFBA	20.000	12.938	-35.3	64.7
13C4-PFHpA	20.000	14.916	-25.4	74.6
13C4-PFOS	---	--ISTD--		
13C5-PFHxA	20.000	13.316	-33.4	66.6
13C5-PFPeA	20.000	13.121	-34.4	65.6
13C6-PFDA	20.000	15.845	-20.8	79.2
13C7-PFUnDA	20.000	15.406	-23.0	77.0
13C8-FOSA	20.000	17.997	-10.0	90.0
13C8-PFOA	20.000	15.398	-23.0	77.0
13C8-PFOS	20.000	15.408	-23.0	77.0
13C9-PFNA	20.000	15.815	-20.9	79.1
4:2FTS	20.000	22.874	14.4	114.4
6:2FTS	20.000	23.442	17.2	117.2
8:2FTS	20.000	23.331	16.7	116.7
d3-MeFOSAA	20.000	15.895	-20.5	79.5
M2-PFOA	20.000	20.011	0.1	100.1
EtFOSAA	20.000	20.299	1.5	101.5
FOSA	20.000	20.061	0.3	100.3
MeFOSAA	20.000	20.438	2.2	102.2
PFBA	20.000	18.982	-5.1	94.9
PFBS	20.000	20.481	2.4	102.4
PFDA	20.000	20.193	1.0	101.0
PFDoDA	20.000	19.754	-1.2	98.8
PFDS	20.000	19.635	-1.8	98.2
PFHpA	20.000	19.501	-2.5	97.5
PFHpS	20.000	19.168	-4.2	95.8
PFHxA	20.000	20.536	2.7	102.7
PFHxS	20.000	20.001	0.0	100.0

Continuing Calibration Summary

Job Number: JC65355
Account: ALNJ SGS Dayton, NJ
Project: ILINY: PESNYL: ILI - Region 1, Old North Sea Landfill, NY

Sample: SQ1137-ECC1135
Lab FileID: Q46347.D

PFNA	20.000	20.104	0.5	100.5
PFNS	20.000	19.882	-0.6	99.4
PFOA	20.000	20.471	2.4	102.4
PFOS	20.000	19.210	-4.0	96.0
PFPeA	20.000	20.454	2.3	102.3
PFPeS	20.000	22.527	12.6	112.6
PFTeDA	20.000	19.749	-1.3	98.7
PFTrDA	20.000	19.109	-4.5	95.5
PFUnDA	20.000	19.740	-1.3	98.7
M4-PFOS	20.000	19.984	-0.1	99.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		

CC Criteria: +/- 30%