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*ADDENDA C*

*Landfill Site  
Summary*

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## **NYSDEC Division of Materials Management**

### **Inactive Landfill Initiative**

#### **Landfill Site Summary**

#### **Quogue Landfill**

##### **Regulatory Status / Location**

SWID: 52S28

Inactive Registry Number: 152050

Location: 40.848246, -72.598190

##### **Site History/ Background**

The landfill is located at the dead end of Damascus Rd, in East Quogue, Suffolk County, NY. The site is bounded by residential properties on all four sides. The capped area of the landfill is about 2 acres, and the site is not fenced. The landfill primarily received municipal waste from the 1930s until 1973 and was later used for material storage, occasional dumping of leaves and brush, and an animal shelter. The site currently consists of vacant land. Storage of used cars, disposal of sewage by means of a leaching field, operation of a transfer station and fire training were all done on site without department oversight. Waste received at the landfill was almost entirely from businesses and residences within the Village of Quogue. No evidence of disposal of hazardous wastes has been found at the site (NYSDEC DER).

The Town of Southampton was considering redeveloping the site into athletic fields and related facilities, resulting in the conducting of a Phase II Environmental Assessment in 2007 and a supplemental Phase II in 2009 that consisted of surface soil testing. Samples exceeding unrestricted use RSCOs but below restricted residential RSCOs were detected for zinc, PCBs, and pesticides. Only zinc was detected above unrestricted use RSCOs during the initial Phase II investigation (Dvirka and Bartilucci Consulting Engineers, 2007 and 2009).

The site is generally flat, but based on topographic maps of the area, the general topographic gradient is toward the south. Various mounds ranging in height from 3 to 8-feet high are scattered throughout the site. These appear to consist of mostly soil and debris. The shallow geology of the site generally consists of sand and gravel. There are no large bodies of water in close proximity to the site. Based on discussions with NYSDEC, groundwater flow is presumed to be in a southeasterly direction.

##### **Inactive Landfill Initiative Work**

Work performed for the Inactive Landfill Initiative has included a pre-drill site inspection, the installation of 3 wells, and groundwater sampling. The pre-drill site inspection was conducted on October 11, 2017, by Parsons and NYSDEC personnel. Scattered debris, including car parts, tires, and household waste were visible at the site. What appeared to be a small production well was found near the center of the site.

Three wells were installed at the site on January 11-15, 2018 in accordance with the NYSDEC-approved Hydrogeologic Investigation work plan for the site (Parsons, December 2017). One upgradient well (MW-1) was installed in the northeast corner of the site. Two downgradient wells (MW-

O2 and MW-3) were installed along the south and southwest boundaries of the site respectively. Well details are summarized below:

Well ID	Northing	Easting	Total Depth (ft)	Screened Interval (Ft)
MW-1	251604.494	1372326.341	50.0	39.5-49.5
MW-2	250976.677	1372070.065	50.0	39.5-49.5
MW-3	251135.393	1371769.172	50.0	39.5-49.5

The three wells were sampled on February 7, 2018. Samples were analyzed for PFAS, metals, anions, alkalinity, ammonia, COD, hardness, TDS, TOC, and various organics including VOCs and SVOCs. No Class GA groundwater standards were exceeded; however, the EPA Drinking Water Advisory Levels were exceeded for PFAS parameters at MW-2. Laboratory Level 2 reports are provided in Attachment A.

**Monitoring Well PFAS Highest Sampling Results**

	MW-2
PFOS (ng/L)	11,200
PFOA (ng/L)	424

**Residential Sampling**

A focus list (residents/wells recommended for sampling) was submitted to NYSDOH on April 4, 2018. This list conservatively encompasses downgradient homes on private wells, and upgradient homes in very close proximity to the landfill boundary, where micro variations in gradient could lead to localized impacted groundwater conditions (Attachment B).

**Attachment A – Laboratory Level 2 Reports**

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

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

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Parsons Engineering Science for ILI

PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY

450619.02000

SGS Job Number: JC60421

Sampling Date: 02/07/18

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Report to:

Parsons Engineering Science

Lorraine.Weber@parsons.com

ATTN: Lorraine Weber

Total number of pages in report: 46



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

A handwritten signature in black ink that reads "Nancy 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)

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



April 5, 2018

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

Re: SGS North America – Dayton, NJ Jobs # JC60421 – Reissue

Dear Ms. Weishaupt,

The final report for SGS job number JC60421 has been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.

Specifically, the metals reporting list was changed, and the reporting units for metals were changed to mg/L per the project requirements. The attached revised report incorporates these revisions.

SGS apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact me if I can be of further assistance in this matter.

Sincerely,

Kristin B. DeGraw  
Project Manager

SGS North America Inc



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April 6, 2018

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

Re: SGS North America – Dayton, NJ Job # JC60421 - Reissue #2

Dear Ms. Weishaupt,

The final report for SGS job number JC60421 has been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.

Specifically, the Antimony from samples JC60421-2, -4, and -5 has been omitted and Boron was retrieved as per the project requirements.

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

Sincerely,

Kristin B. DeGraw  
Project Manager

SGS North America Inc



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### Sample Summary

Parsons Engineering Science for ILI

Job No: JC60421

PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY  
 Project No: 450619.02000

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JC60421-1	02/07/18	08:15 SW/CL02/07/18	AQ	Field Blank	Water	1-SUF-010-001-01
JC60421-2	02/07/18	08:40 SW/CL02/07/18	AQ	Ground	Water	1-SUF-010-001-02
JC60421-3	02/07/18	10:30 SW/CL02/07/18	AQ	Equipment	Blank	1-SUF-010-001-03
JC60421-4	02/07/18	12:15 SW/CL02/07/18	AQ	Ground	Water	1-SUF-010-001-04
JC60421-5	02/07/18	14:15 SW/CL02/07/18	AQ	Ground	Water	1-SUF-010-001-05

## CASE NARRATIVE / CONFORMANCE SUMMARY

2

**Client:** Parsons Engineering Science for ILI

**Job No** JC60421

**Site:** PESNYL: ILI - Region I, Quogue Landfill, East Quogue, NY

**Report Date** 4/6/2018 3:12:09 PM

On 02/07/2018, 4 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 4.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC60421 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:** V2E6143

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60393-1MS, JC60421-2DUP were used as the QC samples indicated.

### MS Semi-volatiles By Method EPA 537M BY ID

**Matrix:** AQ

**Batch ID:** F:OP68767

- The data for EPA 537M BY ID meets quality control requirements.
- The following samples were run outside of holding time for method EPA 537M BY ID: JC60421-3
- JC60421-2: Analysis performed at SGS Orlando, FL.
- JC60421-3: Analysis performed at SGS Orlando, FL.
- JC60421-3: Analysis performed at SGS Orlando, FL.
- JC60421-2 for PFOSA: Associated ID Standard outside control limits due to matrix interference. Insufficient sample for re-extraction.

**Matrix:** AQ

**Batch ID:** F:OP68958

- The data for EPA 537M BY ID meets quality control requirements.
- JC60421-5: Analysis performed at SGS Orlando, FL.
- JC60421-1: Analysis performed at SGS Orlando, FL.
- JC60421-4: Analysis performed at SGS Orlando, FL.
- JC60421-4: Analysis performed at SGS Orlando, FL.

### MS Semi-volatiles By Method SW846 8270D BY SIM

**Matrix:** AQ

**Batch ID:** OP9895A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JC60421-2 for Phenanthrene: Associated CCV outside of control limits low.
- JC60421-5 for Fluorene: Associated CCV outside of control limits low.
- JC60421-5 for 1,4-Dioxane: Associated CCV outside of control limits low.
- JC60421-4 for Phenanthrene: Associated CCV outside of control limits low.
- JC60421-4 for Fluorene: Associated CCV outside of control limits low.
- JC60421-4 for 1,4-Dioxane: Associated CCV outside of control limits low.
- JC60421-2 for Fluorene: Associated CCV outside of control limits low.
- JC60421-5 for Phenanthrene: Associated CCV outside of control limits low.
- JC60421-2 for 1,4-Dioxane: Associated CCV outside of control limits low.

### Metals Analysis By Method SW846 6010C

**Matrix:** AQ

**Batch ID:** MP5662

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60394-4MS, JC60394-4MSD, JC60394-4SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Boron, Chromium, Copper, Nickel, Zinc are outside control limits for sample MP5662-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

### Metals Analysis By Method SW846 7470A

**Matrix:** AQ

**Batch ID:** MP5663

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60369-1MS, JC60369-1MSD were used as the QC samples for metals.

### General Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ

**Batch ID:** GP11174

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60369-1MS, JC60624-1DUP, JC60369-1MS were used as the QC samples for Chloride, Sulfate, Chloride, Bromide.

### General Chemistry By Method SM2320 B-11

**Matrix:** AQ

**Batch ID:** GN76125

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60369-1DUP were used as the QC samples for Alkalinity, Total as CaCO<sub>3</sub>.
- JC60421-2 for Alkalinity, Total as CaCO<sub>3</sub>: Sample was titrated to a final pH of 4.2.
- JC60421-5 for Alkalinity, Total as CaCO<sub>3</sub>: Sample was titrated to a final pH of 4.2.
- JC60421-4 for Alkalinity, Total as CaCO<sub>3</sub>: Sample was titrated to a final pH of 4.5.

Friday, April 06, 2018

Page 2 of 3

**General Chemistry By Method SM2340 C-11**

<b>Matrix:</b> AQ	<b>Batch ID:</b> GN76051
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60369-1DUP, JC60369-1MS were used as the QC samples for Hardness, Total as CaCO3.

**General Chemistry By Method SM2540 C-11**

<b>Matrix:</b> AQ	<b>Batch ID:</b> GN76031
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60369-1DUP were used as the QC samples for Solids, Total Dissolved.

**General Chemistry By Method SM4500NH3 H-11LACHAT**

<b>Matrix:</b> AQ	<b>Batch ID:</b> GP11015
-------------------	--------------------------

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60421-4DUP, JC60421-4MS, JC60421-4MSD were used as the QC samples for Nitrogen, Ammonia.

**General Chemistry By Method SM5220 C-11,HACH8000**

<b>Matrix:</b> AQ	<b>Batch ID:</b> GP11117
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- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60323-13DUP, JC60323-13MS were used as the QC samples for Chemical Oxygen Demand.

**General Chemistry By Method SW846 9060A**

<b>Matrix:</b> AQ	<b>Batch ID:</b> GP11207
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- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC60421-2MS, JC60421-2MSD 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:** JC60421

**Site:** ILINY: PESNYL: ILI - Region 1, Old Quogue Landfill, East

**Report Date:** 3/5/2018 2:01:23 PM

4 Sample(s) and 1 Field Blank(s) were collected on 02/07/2018 and were received at SGS North America Inc - Orlando on 02/09/2018 properly preserved, at 2.6 Deg. C and intact. These Samples received an SGS Orlando job number of JC60421. 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:** OP68767

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) JC60421-2MS, JC60499-3DUP were used as the QC samples indicated.

Sample(s) JC60421-3 have compounds reported from the diluted analysis.

RPD(s) for Duplicate for Perfluorodecanoic acid are outside control limits for sample OP68767-DUP. Probable cause is due to sample non-homogeneity.

Sample(s) JC60421-2, OP68767-BS, OP68767-DUP have surrogates outside control limits.

JC60421-2 for PFOSA: Associated ID Standard outside control limits due to matrix interference. Insufficient sample for re-extraction.

JC60421-2 for 13C8-FOSA: Outside control limits.

**Matrix:** AQ

**Batch ID:** OP68958

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) JC60421-4 have compounds reported from the diluted analysis.

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:** JC60421  
**Account:** Parsons Engineering Science for ILI  
**Project:** PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY  
**Collected:** 02/07/18



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
<b>JC60421-1</b>		<b>1-SUF-010-001-01</b>					
		Perfluoropentanoic acid <sup>a</sup>	0.00129 J	0.0040	0.0010	ug/l	EPA 537M BY ID
		Perfluorooctanoic acid <sup>a</sup>	0.00122 J	0.0040	0.0010	ug/l	EPA 537M BY ID
		Perfluorotetradecanoic acid <sup>a</sup>	0.00155 J	0.0040	0.0010	ug/l	EPA 537M BY ID
		PFOSA <sup>a</sup>	0.00113 J	0.0040	0.0010	ug/l	EPA 537M BY ID
<b>JC60421-2</b>		<b>1-SUF-010-001-02</b>					
		Perfluoropentanoic acid <sup>a</sup>	0.00140 J	0.0036	0.00089	ug/l	EPA 537M BY ID
		Perfluorooctanoic acid <sup>a</sup>	0.00146 J	0.0036	0.00089	ug/l	EPA 537M BY ID
		Perfluorotetradecanoic acid <sup>a</sup>	0.00167 J	0.0036	0.00089	ug/l	EPA 537M BY ID
		Barium	0.0195 J	0.20	0.0013	mg/l	SW846 6010C
		Iron	0.0785 J	0.10	0.032	mg/l	SW846 6010C
		Manganese	0.0289	0.015	0.00042	mg/l	SW846 6010C
		Alkalinity, Total as CaCO <sub>3</sub> <sup>b</sup>	1.5 J	5.0	1.1	mg/l	SM2320 B-11
		Chloride	4.7	2.0	0.070	mg/l	EPA 300/SW846 9056A
		Hardness, Total as CaCO <sub>3</sub>	16.0	4.0	2.5	mg/l	SM2340 C-11
		Solids, Total Dissolved	20.0	10	1.8	mg/l	SM2540 C-11
		Sulfate	8.3	2.0	0.53	mg/l	EPA 300/SW846 9056A
<b>JC60421-3</b>		<b>1-SUF-010-001-03</b>					
		Perfluoropentanoic acid <sup>a</sup>	0.00131 J	0.0036	0.00089	ug/l	EPA 537M BY ID
		Perfluorooctanoic acid <sup>a</sup>	0.00138 J	0.0036	0.00089	ug/l	EPA 537M BY ID
		Perfluorotetradecanoic acid <sup>a</sup>	0.0317 J	0.071	0.018	ug/l	EPA 537M BY ID
<b>JC60421-4</b>		<b>1-SUF-010-001-04</b>					
		Perfluorobutanoic acid <sup>a</sup>	0.0804	0.080	0.020	ug/l	EPA 537M BY ID
		Perfluoropentanoic acid <sup>a</sup>	0.177	0.040	0.010	ug/l	EPA 537M BY ID
		Perfluorohexanoic acid <sup>a</sup>	1.01	0.040	0.010	ug/l	EPA 537M BY ID
		Perfluoroheptanoic acid <sup>a</sup>	0.181	0.040	0.010	ug/l	EPA 537M BY ID
		Perfluorooctanoic acid <sup>a</sup>	0.424	0.040	0.010	ug/l	EPA 537M BY ID
		Perfluorotetradecanoic acid <sup>a</sup>	0.0796 J	0.20	0.050	ug/l	EPA 537M BY ID
		Perfluorobutanesulfonic acid <sup>a</sup>	0.241	0.040	0.010	ug/l	EPA 537M BY ID
		Perfluorohexanesulfonic acid <sup>a</sup>	3.70	0.20	0.050	ug/l	EPA 537M BY ID
		Perfluoroheptanesulfonic acid <sup>a</sup>	0.621	0.040	0.010	ug/l	EPA 537M BY ID
		Perfluorooctanesulfonic acid <sup>a</sup>	11.2	0.40	0.10	ug/l	EPA 537M BY ID
		Barium	0.0317 J	0.20	0.0013	mg/l	SW846 6010C
		Boron	0.157	0.10	0.013	mg/l	SW846 6010C
		Chromium	0.00090 J	0.010	0.00085	mg/l	SW846 6010C
		Iron	0.187	0.10	0.032	mg/l	SW846 6010C
		Manganese	0.0140 J	0.015	0.00042	mg/l	SW846 6010C
		Zinc	0.0778	0.020	0.0040	mg/l	SW846 6010C

**Summary of Hits****Job Number:** JC60421**Account:** Parsons Engineering Science for IL1**Project:** PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY**Collected:** 02/07/18

Lab Sample ID	Client Sample ID	Result/ Analyte	RI	MDL	Units	Method	
		Alkalinity, Total as CaCO <sub>3</sub> <sup>c</sup>	118	5.0	1.1	mg/l	SM2320 B-11
		Chemical Oxygen Demand	7.7 J	20	6.3	mg/l	SM5220 C-11, HACH18000
		Chloride	6.4	2.0	0.070	mg/l	EPA 300/SW846 9056A
		Hardness, Total as CaCO <sub>3</sub>	160	4.0	2.5	mg/l	SM2340 C-11
		Solids, Total Dissolved	160	10	1.8	mg/l	SM2540 C-11
		Sulfate	29.1	4.0	1.1	mg/l	EPA 300/SW846 9056A
		Total Organic Carbon	1.9	1.0	0.60	mg/l	SW846 9060A

**JC60421-5      1-SUF-010-001-05**

Chloroform	0.36 J	1.0	0.29	ug/l	SW846 8260C
Perfluorobutanoic acid <sup>a</sup>	0.00609 J	0.0077	0.0019	ug/l	EPA 537M BY ID
Perfluoropentanoic acid <sup>a</sup>	0.0158	0.0038	0.00096	ug/l	EPA 537M BY ID
Perfluorohexanoic acid <sup>a</sup>	0.0102	0.0038	0.00096	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid <sup>a</sup>	0.00471	0.0038	0.00096	ug/l	EPA 537M BY ID
Perfluorotetradecanoic acid <sup>a</sup>	0.00148 J	0.0038	0.00096	ug/l	EPA 537M BY ID
Perfluorobutanesulfonic acid <sup>a</sup>	0.00235 J	0.0038	0.00096	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid <sup>a</sup>	0.00151 J	0.0038	0.00096	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid <sup>a</sup>	0.00580 J	0.0077	0.0019	ug/l	EPA 537M BY ID
Barium	0.0487 J	0.20	0.0013	mg/l	SW846 6010C
Boron	0.0208 J	0.10	0.013	mg/l	SW846 6010C
Iron	0.0714 J	0.10	0.032	mg/l	SW846 6010C
Manganese	0.136	0.015	0.00042	mg/l	SW846 6010C
Zinc	0.0044 J	0.020	0.0040	mg/l	SW846 6010C
Alkalinity, Total as CaCO <sub>3</sub> <sup>b</sup>	4.0 J	5.0	1.1	mg/l	SM2320 B-11
Chemical Oxygen Demand	7.7 J	20	6.3	mg/l	SM5220 C-11, HACH8000
Chloride	17.7	2.0	0.070	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO <sub>3</sub>	36.0	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Dissolved	60.0	10	1.8	mg/l	SM2540 C-11
Sulfate	22.4	4.0	1.1	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	0.83 J	1.0	0.60	mg/l	SW846 9060A

(a) Analysis performed at SGS Orlando, FL.

(b) Sample was titrated to a final pH of 4.2.

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

Sample Results

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Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-01	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-1	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Field Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q11971.D	1	03/01/18 21:27	AFL	03/01/18 08:00	F:OP68958	F:S2Q217
Run #2							

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

## PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	0.00129	0.0040	0.0010	ug/l	J
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	0.00122	0.0040	0.0010	ug/l	J
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	0.00155	0.0040	0.0010	ug/l	J
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	0.0080	0.0020	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	0.00113	0.0040	0.0010	ug/l	J
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.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	84%		50-150%
	13C5-PFPeA	84%		50-150%
	13C5-PFHxA	85%		50-150%
	13C4-PFHpA	86%		50-150%
	13C8-PFOA	89%		50-150%
	13C9-PFNA	89%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	87%		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

<b>Client Sample ID:</b> 1-SUF-010-001-01		<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-1		<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Field Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537M BY ID EPA 537 MOD		
<b>Project:</b> PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY		

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**PFAS List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	83%		50-150%
	13C2-PFTeDA	77%		50-150%
	13C3-PFBS	92%		50-150%
	13C3-PFHxS	93%		50-150%
	13C8-PFOS	93%		50-150%
	13C8-FOSA	51%		50-150%
	d3-MeFOSAA	92%		50-150%
	13C2-6:2FTS	90%		50-150%
	13C2-8:2FTS	97%		50-150%

(0) Analysis performed at SGS Orlando, FL.

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

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

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-02	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-2	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	PESNYL: ILL - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E140762.D	1	02/09/18 21:59	JP	n/a	n/a	V2E6143
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

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

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 E = Indicates value exceeds calibration range

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 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-02	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-2	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	PESNYL: II.1 - Region 1, Quogue Landfill, East Quogue, NY		

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## 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	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	93%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

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

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 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-02	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-2	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4P25740.D	1	02/15/18 05:44	CS	02/09/18 02:30	OP9895A	E4P1435
Run #2							

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

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene <sup>a</sup>	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 <sup>a</sup>	ND	0.10	0.023	ug/l	
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane <sup>a</sup>	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		29-124%
321-60-8	2-Fluorobiphenyl	42%		23-122%
1718-51-0	Terphenyl-d14	64%		22-130%

(a) Associated CCV outside of control limits low.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
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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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<b>Client Sample ID:</b>	1-SUF-010-001-02	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-2	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: ILJ - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q11748.D	1	02/23/18 19:15	AFL	02/14/18 09:00	F:OP68767	F:S2Q215
Run #2							

Run #	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

## PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0071	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	0.00140	0.0036	0.00089	ug/l	J
307-24-4	Perfluorohexanoic acid	ND	0.0036	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0036	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.00146	0.0036	0.00089	ug/l	J
375-95-1	Perfluorononanoic acid	ND	0.0036	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0036	0.00089	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0036	0.00089	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0036	0.00089	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0036	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.00167	0.0036	0.00089	ug/l	J
375-73-5	Perfluorobutanesulfonic acid	ND	0.0036	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0036	0.00089	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0036	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0071	0.0018	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0036	0.00089	ug/l	
754-91-6	PFOSA <sup>b</sup>	ND	0.0036	0.00089	ug/l	
2355-31-9	MeFOSAA	ND	0.018	0.0036	ug/l	
2991-50-6	EtFOSAA	ND	0.018	0.0036	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0071	0.0018	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0071	0.0018	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	93%		50-150%
	13C5-PFPeA	90%		50-150%
	13C5-PFHxA	92%		50-150%
	13C4-PFHpA	91%		50-150%
	13C8-PFOA	91%		50-150%
	13C9-PFNA	92%		50-150%
	13C6-PFDA	88%		50-150%
	13C7-PFUnDA	81%		50-150%

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

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

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## Report of Analysis

<b>Client Sample ID:</b>	I-SUF-010-001-02	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-2	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY		

## PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	78%		50-150%
	13C2-PFTeDA	82%		50-150%
	13C3-PFBS	93%		50-150%
	13C3-PFHxS	93%		50-150%
	13C8-PFOS	90%		50-150%
	13C8-FOSA	39% <sup>c</sup>		50-150%
	d3-MeFOSAA	86%		50-150%
	13C2-6:2FTS	90%		50-150%
	13C2-8:2FTS	94%		50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Associated ID Standard outside control limits due to matrix interference. Insufficient sample for re-extraction.

(c) Outside control limits.

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

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

### Report of Analysis

<b>Client Sample ID:</b> 1-SUF-010-001-02	<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-2	<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY	

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**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Barium	0.0195 J	0.20	0.0013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Beryllium	ND	0.0010	0.00040	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Boron	ND	0.10	0.013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Chromium	ND	0.010	0.00085	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Copper	ND	0.010	0.0032	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Iron	0.0785 J	0.10	0.032	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Lead	ND	0.0030	0.0026	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Manganese	0.0289	0.015	0.00042	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Mercury	ND	0.00020	0.000083	mg/l	1	02/08/18	02/08/18 JA	SW846 7470A <sup>1</sup>	SW846 7470A <sup>4</sup>
Nickel	ND	0.010	0.0013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Selenium	ND	0.010	0.0066	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Thallium	ND	0.0020	0.0016	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Zinc	ND	0.020	0.0040	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>

- (1) Instrument QC Batch: MA43734
- (2) Instrument QC Batch: MA43750
- (3) Prep QC Batch: MP5662
- (4) Prep QC Batch: MP5663

RL = Reporting Limit  
MDL = Method Detection Limit

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

### Report of Analysis

<b>Client Sample ID:</b> 1-SUF-010-001-02	<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-2	<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY	

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**General Chemistry**

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO <sub>3</sub> <sup>a</sup>	1.5 J	5.0	1.1	mg/l	1	02/12/18 19:20 LS	SM2320	B-11
Bromide	ND	0.50	0.060	mg/l	1	02/18/18 15:15 JN	EPA 300/SW846	9056A
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	02/14/18 13:03 MP	SM5220 C-11,	HACH8000
Chloride	4.7	2.0	0.070	mg/l	1	02/18/18 15:15 JN	EPA 300/SW846	9056A
Hardness, Total as CaCO <sub>3</sub>	16.0	4.0	2.5	mg/l	1	02/09/18 16:56 MP	SM2340	C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	02/08/18 12:01 BM	SM4500NH3	11-11LACHAT
Solids, Total Dissolved	20.0	10	1.8	mg/l	1	02/09/18 12:58 MW	SM2540	C-11
Sulfate	8.3	2.0	0.53	mg/l	1	02/18/18 15:15 JN	EPA 300/SW846	9056A
Total Organic Carbon	ND	1.0	0.60	mg/l	1	02/20/18 02:21 CD	SW846	9060A

(a) Sample was titrated to a final pH of 4.2.

RL = Reporting Limit  
MDL = Method Detection Limit

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

## Report of Analysis

<b>Client Sample ID:</b>	I-SUF-010-001-03	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-3	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Equipment Blank	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: ILJ - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q11762.D	1	02/24/18 00:13	AFL	02/14/18 09:00	F:OP68767	F:S2Q215
Run #2	2Q12010.D	20	03/02/18 11:49	AFL	02/14/18 09:00	F:OP68767	F:S2Q217

Run #	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

## PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0071	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	0.00131	0.0036	0.00089	ug/l	J
307-24-4	Perfluorohexanoic acid	ND	0.0036	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0036	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.00138	0.0036	0.00089	ug/l	J
375-95-1	Perfluorononanoic acid	ND	0.0036	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	ND <sup>b</sup>	0.071	0.018	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND <sup>b</sup>	0.071	0.018	ug/l	
307-55-1	Perfluorododecanoic acid	ND <sup>b</sup>	0.071	0.018	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0036	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0317 <sup>b</sup>	0.071	0.018	ug/l	J
375-73-5	Perfluorobutanesulfonic acid	ND	0.0036	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0036	0.00089	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0036	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0071	0.0018	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0036	0.00089	ug/l	
754-91-6	PFOSA	ND	0.0036	0.00089	ug/l	
2355-31-9	MeFOSAA	ND	0.018	0.0036	ug/l	
2991-50-6	EtFOSAA	ND	0.018	0.0036	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0071	0.0018	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND <sup>b</sup>	0.14	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	83%		50-150%
	13C5-PFPeA	82%		50-150%
	13C5-PFHxA	86%		50-150%
	13C4-PFHpA	87%		50-150%
	13C8-PFOA	90%		50-150%
	13C9-PFNA	84%		50-150%
	13C6-PFDA		127%	50-150%
	13C7-PFUnDA		122%	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

<b>Client Sample ID:</b>	1-SUF-010-001-03	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-3	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Equipment Blank	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

## PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA		108%	50-150%
	13C2-PFTeDA		130%	50-150%
	13C3-PFBS	90%		50-150%
	13C3-PFHxS	90%		50-150%
	13C8-PFOS	86%		50-150%
	13C8-FOSA	86%		50-150%
	d3-MeFOSAA	97%		50-150%
	13C2-6:2FTS	87%		50-150%
	13C2-8:2FTS		131%	50-150%

(a) Analysis performed at SGS Orlando, FL.

(b) Result is from Run# 2

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

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

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-04	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-4	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E140763.D	1	02/09/18 22:27	JP	n/a	n/a	V2E6143
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

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

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

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

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-04	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-4	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, 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	93%		80-120%
17060-07-0	1,2-Dichloroethane-D4	90%		81-124%
2037-26-5	Toluene-D8	99%		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	ug/l	

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 E = Indicates value exceeds calibration range

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 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-04	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-4	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4P25741.D	1	02/15/18 06:15	CS	02/09/18 02:30	OP9895A	E4P1435
Run #2							

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

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene <sup>a</sup>	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 <sup>a</sup>	ND	0.10	0.023	ug/l	
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane <sup>a</sup>	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		29-124%
321-60-8	2-Fluorobiphenyl	49%		23-122%
1718-51-0	Terphenyl-d14	53%		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

<b>Client Sample ID:</b>	1-SUF-010-001-04	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-4	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	2Q11973.D	10	03/01/18 22:09	AFL	03/01/18 08:00	F:OP68958	F:S2Q217
Run #2 <sup>a</sup>	2Q12011.D	50	03/02/18 12:11	AFL	03/01/18 08:00	F:OP68958	F:S2Q217

Run #	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	0.0804	0.080	0.020	ug/l	
2706-90-3	Perfluoropentanoic acid	0.177	0.040	0.010	ug/l	
307-24-4	Perfluorohexanoic acid	1.01	0.040	0.010	ug/l	
375-85-9	Perfluoroheptanoic acid	0.181	0.040	0.010	ug/l	
335-67-1	Perfluorooctanoic acid	0.424	0.040	0.010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.040	0.010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.040	0.010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.040	0.010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.040	0.010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.040	0.010	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0796 <sup>b</sup>	0.20	0.050	ug/l	J
375-73-5	Perfluorobutanesulfonic acid	0.241	0.040	0.010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	3.70 <sup>b</sup>	0.20	0.050	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	0.621	0.040	0.010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	11.2 <sup>b</sup>	0.40	0.10	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.040	0.010	ug/l	
754-91-6	PFOSA	ND	0.040	0.010	ug/l	
2355-31-9	MeFOSAA	ND	0.20	0.040	ug/l	
2991-50-6	EtFOSAA	ND	0.20	0.040	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.080	0.020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.080	0.020	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	74%	93%	50-150%
	13C5-PFPeA	73%	92%	50-150%
	13C5-PFHxA	73%	95%	50-150%
	13C4-PFHpA	73%	97%	50-150%
	13C8-PFOA	81%	102%	50-150%
	13C9-PFNA	86%	100%	50-150%
	13C6-PFDA	80%	104%	50-150%
	13C7-PFUnDA	75%	107%	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

<b>Client Sample ID:</b>	1-SUF-010-001-04	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-4	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY		

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**PFAS List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFD <sub>6</sub> DA	73%	105%	50-150%
	13C2-PFTeDA	61%	101%	50-150%
	13C3-PFBS	75%	97%	50-150%
	13C3-PFHxS	72%	98%	50-150%
	13C8-PFOS	77%	97%	50-150%
	13C8-FOSA	70%	112%	50-150%
	d3-MeFOSAA	90%	110%	50-150%
	13C2-6:2FTS	83%	98%	50-150%
	13C2-8:2FTS	76%	111%	50-150%

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

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

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

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-04	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-4	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, 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	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Barium	0.0317 J	0.20	0.0013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Beryllium	ND	0.0010	0.00040	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Boron	0.157	0.10	0.013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Chromium	0.00090 J	0.010	0.00085	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Copper	ND	0.010	0.0032	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Iron	0.187	0.10	0.032	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Lead	ND	0.0030	0.0026	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Manganese	0.0140 J	0.015	0.00042	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Mercury	ND	0.00020	0.000083	mg/l	1	02/08/18	02/08/18 JA	SW846 7470A <sup>1</sup>	SW846 7470A <sup>4</sup>
Nickel	ND	0.010	0.0013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Selenium	ND	0.010	0.0066	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Thallium	ND	0.0020	0.0016	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Zinc	0.0778	0.020	0.0040	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>

(1) Instrument QC Batch: MA43734

(2) Instrument QC Batch: MA43750

(3) Prep QC Batch: MP5662

(4) Prep QC Batch: MP5663

RL = Reporting Limit  
 MDL = Method Detection Limit

ND = Not detected  
 J = Indicates a result  $\geq$  MDL, but  $<$  RL.

### Report of Analysis

<b>Client Sample ID:</b> 1-SUF-010-001-04	<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-4	<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY	

4.4  
4

**General Chemistry**

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO <sub>3</sub> <sup>a</sup>	118	5.0	1.1	mg/l	1	02/12/18 19:20	LS	SM2320 B-11
Bromide	ND	0.50	0.060	mg/l	1	02/18/18 16:51	JN	EPA 300/SW846 9056A
Chemical Oxygen Demand	7.7 J	20	6.3	mg/l	1	02/14/18 13:03	MP	SM5220 C-11, HACH8000
Chloride	6.4	2.0	0.070	mg/l	1	02/18/18 16:51	JN	EPA 300/SW846 9056A
Hardness, Total as CaCO <sub>3</sub>	160	4.0	2.5	mg/l	1	02/09/18 16:56	MP	SM2340 C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	02/08/18 12:03	BM	SM4500NH3 H-11LACHA
Solids, Total Dissolved	160	10	1.8	mg/l	1	02/09/18 12:58	MW	SM2540 C-11
Sulfate	29.1	4.0	1.1	mg/l	2	02/19/18 21:12	JN	EPA 300/SW846 9056A
Total Organic Carbon	1.9	1.0	0.60	mg/l	1	02/20/18 03:40	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

<b>Client Sample ID:</b>	I-SUF-010-001-05	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-5	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E140764.D	1	02/09/18 22:55	JP	n/a	n/a	V2E6143
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	0.36	1.0	0.29	ug/l	J
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane	ND	2.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

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

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

## Report of Analysis

<b>Client Sample ID:</b>	1-SUF-010-001-05	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-5	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

4.5  
4

## 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	91%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

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

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

<b>Client Sample ID:</b>	1-SUF-010-001-05	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-5	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	PESNYL: II.1 - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4P25742.D	1	02/15/18 06:46	CS	02/09/18 02:30	OP9895A	E4P1435
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.027	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.023	ug/l	
120-12-7	Anthracene	ND	0.11	0.021	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.054	0.025	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.054	0.036	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.11	0.047	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.036	ug/l	
218-01-9	Chrysene	ND	0.11	0.028	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.039	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.024	ug/l	
86-73-7	Fluorene <sup>a</sup>	ND	0.11	0.027	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.041	ug/l	
91-20-3	Naphthalene	ND	0.11	0.032	ug/l	
85-01-8	Phenanthrene <sup>a</sup>	ND	0.11	0.025	ug/l	
129-00-0	Pyrene	ND	0.11	0.021	ug/l	
123-91-1	1,4-Dioxane <sup>a</sup>	ND	0.11	0.053	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		29-124%
321-60-8	2-Fluorobiphenyl	68%		23-122%
1718-51-0	Terphenyl-d14	82%		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

<b>Client Sample ID:</b>	1-SUF-010-001-05	<b>Date Sampled:</b>	02/07/18
<b>Lab Sample ID:</b>	JC60421-5	<b>Date Received:</b>	02/07/18
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M BY ID EPA 537 MOD		
<b>Project:</b>	PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q11975.D	1	03/01/18 22:52	AFI	03/01/18 08:00	F:OP68958	F:S2Q217
Run #2							

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

**PFAS List**

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	0.00609	0.0077	0.0019	ug/l	J
2706-90-3	Perfluoropentanoic acid	0.0158	0.0038	0.00096	ug/l	
307-24-4	Perfluorohexanoic acid	0.0102	0.0038	0.00096	ug/l	
375-85-9	Perfluoroheptanoic acid	0.00471	0.0038	0.00096	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0038	0.00096	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0038	0.00096	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0038	0.00096	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0038	0.00096	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0038	0.00096	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0038	0.00096	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.00148	0.0038	0.00096	ug/l	J
375-73-5	Perfluorobutanesulfonic acid	0.00235	0.0038	0.00096	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.00151	0.0038	0.00096	ug/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0038	0.00096	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.00580	0.0077	0.0019	ug/l	J
335-77-3	Perfluorodecanesulfonic acid	ND	0.0038	0.00096	ug/l	
754-91-6	PFOSA	ND	0.0038	0.00096	ug/l	
2355-31-9	MeFOSAA	ND	0.019	0.0038	ug/l	
2991-50-6	EtFOSAA	ND	0.019	0.0038	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0077	0.0019	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0077	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	92%		50-150%
	13C5-PFPeA	91%		50-150%
	13C5-PFHxA	96%		50-150%
	13C4-PFHpA	97%		50-150%
	13C8-PFOA	104%		50-150%
	13C9-PFNA	105%		50-150%
	13C6-PFDA	98%		50-150%
	13C7-PFUnDA	90%		50-150%

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

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

4.5  
4

## Report of Analysis

<b>Client Sample ID:</b> 1-SUF-010-001-05		<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-5		<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> EPA 537M BY ID EPA 537 MOD		
<b>Project:</b> PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY		

**PFAS List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	88%		50-150%
	13C2-PFTeDA	87%		50-150%
	13C3-PFBS	95%		50-150%
	13C3-PFHxS	101%		50-150%
	13C8-PFOS	105%		50-150%
	13C8-FOSA	92%		50-150%
	d3-MeFOSAA	92%		50-150%
	13C2-6:2FTS	102%		50-150%
	13C2-8:2FTS	103%		50-150%

(a) Analysis performed at SGS Orlando, FL.

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

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

4.5  
4

### Report of Analysis

<b>Client Sample ID:</b> 1-SUF-010-001-05	<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-5	<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> PESNYL: ILI - Region 1, Quogue Landfill, East Quogue, NY	

4.5  
4

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	ND	0.0030	0.0027	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Barium	0.0487 J	0.20	0.0013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Beryllium	ND	0.0010	0.00040	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Boron	0.0208 J	0.10	0.013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Chromium	ND	0.010	0.00085	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Copper	ND	0.010	0.0032	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Iron	0.0714 J	0.10	0.032	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Lead	ND	0.0030	0.0026	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Manganese	0.136	0.015	0.00042	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Mercury	ND	0.00020	0.000083	mg/l	1	02/08/18	02/08/18 JA	SW846 7470A <sup>1</sup>	SW846 7470A <sup>4</sup>
Nickel	ND	0.010	0.0013	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Selenium	ND	0.010	0.0066	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Thallium	ND	0.0020	0.0016	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>
Zinc	0.0044 J	0.020	0.0040	mg/l	1	02/08/18	02/09/18 RP	SW846 6010C <sup>2</sup>	SW846 3010A <sup>3</sup>

- (1) Instrument QC Batch: MA43734
- (2) Instrument QC Batch: MA43750
- (3) Prep QC Batch: MP5662
- (4) Prep QC Batch: MP5663

RL = Reporting Limit  
MDL = Method Detection Limit

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

## Report of Analysis

<b>Client Sample ID:</b> 1-SUF-010-001-05	<b>Date Sampled:</b> 02/07/18
<b>Lab Sample ID:</b> JC60421-5	<b>Date Received:</b> 02/07/18
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> PESNYL: IL1 - Region 1, Quogue Landfill, East Quogue, NY	

## General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO <sub>3</sub> <sup>a</sup>	4.0 J	5.0	1.1	mg/l	1	02/12/18 19:20 LS	SM2320	B-11
Bromide	ND	0.50	0.060	mg/l	1	02/18/18 17:19 JN	EPA 300/SW846	9056A
Chemical Oxygen Demand	7.7 J	20	6.3	mg/l	1	02/14/18 13:03 MP	SM5220 C-11,	HACH8000
Chloride	17.7	2.0	0.070	mg/l	1	02/18/18 17:19 JN	EPA 300/SW846	9056A
Hardness, Total as CaCO <sub>3</sub>	36.0	4.0	2.5	mg/l	1	02/09/18 16:56 MP	SM2340	C-11
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	02/08/18 12:04 BM	SM4500NH3 H-11	LACHAT
Solids, Total Dissolved	60.0	10	1.8	mg/l	1	02/09/18 12:58 MW	SM2540	C-11
Sulfate	22.4	4.0	1.1	mg/l	2	02/19/18 21:40 JN	EPA 300/SW846	9056A
Total Organic Carbon	0.83 J	1.0	0.60	mg/l	1	02/20/18 04:00 CD	SW846	9060A

(a) Sample was titrated to a final pH of 4.2.

RL = Reporting Limit  
MDL = Method Detection Limit

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

Misc. Forms

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5

Custody Documents and Other Forms

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Includes the following where applicable:

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

**Job Change Order: JC60421**

Requested Date: 2/12/2018 Received Date: 2/7/2018  
Account Name: NY Inactive Landfill Initiative (Pars) Due Date: 2/21/2018  
Project Description: PESNYL: ILI - Region 1, Old Ouzogue Landfill, East Deliverable: NYASPB  
C/O Initiated By: peled PM: TM TAT (Days): 14

Sample #: JC60421-2, -4, -5 Change: Revise V8260SL to V8260SL\*  
Dept: TAT: 14

Above Changes Per: Tammy McCloskey Date/Time: 2/12/2018 2:21:58 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

## SGS Sample Receipt Summary

Job Number: JC60421

Client: PARSONS

Project: QUOGUE LANDFILL - NY ILI

Date / Time Received: 2/7/2018 6:45:00 PM

Delivery Method: Acutest Courier

Airbill #'s:

Cooler Temps (Raw Measured) °C: Cooler 1: (2.9); Cooler 2: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (4.4); Cooler 2: (4.8);

**Cooler Security**

Y or N

1. Custody Seals Present:
2. Custody Seals Intact:

3. COC Present:
4. Smp'l Dates/Time OK:

**Cooler Temperature**

Y or N

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

**Quality Control Preservation**

Y or N

N/A

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

**Sample Integrity - Documentation**

Y or N

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

**Sample Integrity - Condition**

Y or N

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

**Sample Integrity - Instructions**

Y or N

N/A

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

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

Comments - COC notes Trip Blank was broken prior to receipt by Parsons.

SM060-03  
Rev. Date 12/7/17

5.1  
5

Responded to by: CSR: N/A

Response Date: Response Date: 2/7/2018

Response:

Response: Proceed with analysis

5.1

5

JC60421: Chain of Custody

Page 3 of 6

GW  
FB

JC60421

L

CHAIN-OF-CUSTODY / Analytical Request Document

<b>Section A Laboratory Information</b>				<b>Section B Client Information</b>				<b>COC #:</b> 1506-010-001																
Lab Name: SGS - Accutest				Company: Parsons				Project Name: <i>Inactive Landfill Investigation</i>																
Attention: Tammy Esposito McCloskey				Attention: Sara Weishaup				Project Site: <i>Q105 vs LF</i>																
Address: Route 2235 Route 130; Dayton, NJ 08810				Address: 301 Mainfield Road, Suite 350 Syracuse, NY 13212				Project Number: 450619.02000																
Phone: 732-329-0200				Phone: 315-552-9681				Preservative codes (for water only):																
Email:				Email: Sara.Weishaup@parsons.com				0 1 2 3 4 5 6 7 8 9 10 11 12																
<b>Section C Deliverable Requirements</b>				Purchase Order No:				13																
Report To: Sara.Weishaup@parsons.com				TAT - 10				14																
Copy To: Loraine Weber@parsons.com; Laura.Dreitzberg@parsons.com; Maryanne.Kosowicz@parsons.com; Heather.Fetig@parsons.com				<i>Q105 vs LF</i>				15																
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD				<b>Section D Additional Information</b>				16																
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.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1 FieldQC	-	-	1506-010-001-01	2/1/18	0815	FB	WQ	QC	2		X													
2 1506-010-MW-01	48.12	50.4	1506-010-001-02	2/7/18	0846	N	WG	GW	15		X	X	X	X	X	X	X	X	X	X	X	X	X	X
3 FieldQC	-	-	1506-010-001-03	2/1/18	1030	EB	WQ	QC	2		X													
4 1506-010-MW-02	41.1	50.9	1506-010-001-04	2/7/18	1215	N	WG	GW	15		X	X	X	X	X	X	X	X	X	X	X	X	X	X
5 1506-010-MW-03	48.5	50.7	1506-010-001-05	2/7/18	1415	N	WG	GW	15		X	X	X	X	X	X	X	X	X	X	X	X	X	X
6																								
7																								
8																								
9																								
10																								
Special Instructions: <i>Tip Blank for Q105 vs LF was broken prior to receipt by Parsons</i>										ALL SAMPLES RECEIVED AND PRESERVED AS APPLICABLE <i>al</i>														
Company: Parsons				Company: <i>SGS ACQUITY</i>				Order Time: <i>2/1/18 1430</i>				Company: <i>SGS</i>				Order Time: <i>2/1/18 1430</i>								
Order Time: <i>2/1/18 1430</i>				Order Time: <i>2/1/18 1430</i>				Order Time: <i>2/1/18 1430</i>				Order Time: <i>2/1/18 1430</i>				Order Time: <i>2/1/18 1430</i>								
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5.1  
5

E100  
A27  
C49  
G3013  
1954  
V845

1  
2  
3  
4  
5

TM-02218-30

INITIAL ASSESSMENT *al*  
LABEL VERIFICATION

C:\Users\P001482D\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\U88840GE\COC for ILI\_Region 1.xls



Job Change Order: JC60421

Requested Date: 4/5/2018 Received Date: 2/7/2018  
Account Name: Parsons Engineering Science for Due Date: 2/21/2018  
Project Description: PESNYL ILI - Region 1, Quogue Landfill, East Quo Deliverable: NYASPB  
C/O Initiated By: kristin.degra PM: TM TAT (Days): 1

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Sample #: JC60421-2, -4, -5 Change:  
Please NO OUT data for AG, AL, CA, CD, CO, K, MG, NA, B and V. Please  
adjust metals units to mg/L  
Dept: TAT: 1

JC60421: Chain of Custody  
Page 5 of 6

Above Changes Per: Client / Maryanne Kosciwicz Date/Time: 4/5/2018 2:19:55 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

**Job Change Order:** JC60421

**Requested Date:** 4/6/2018      **Received Date:** 2/7/2018  
**Account Name:** Parsons Engineering Science for      **Due Date:** 2/21/2018  
**Project Description:** PESNYL ILJ - Region 1, Quogue Landfill, East Quo      **Deliverable:** NYASPB  
**CIO Initiated By:** kristin.degra      **PM:** KD      **TAT (Days):** 1

**Sample #:** JC60421-2, -4, -5      **Change:**  
**Dept:** Please NO OUT data for SB and retrieve/add data for B (already run).

**TAT:** 1

**Above Changes Per:** Client      **DateTime:** 4/6/2018 1:41:05 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

Page 1 of 1

JC60421: Chain of Custody  
Page 6 of 6



### SGS Sample Receipt Summary

Job Number: JC60421

Client: ALNJ

Project: PESNYL

Date / Time Received: 2/9/2018 9:15:00 AM

Delivery Method: FED EX

Airbill #'s: 1001891751210003281100563393511623

Therm ID: IR 1;

Therm CF: 0.4;

# of Coolers: 1

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

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

**Cooler Information**

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

**Trip Blank Information**

Y or N

N/A

- 1. Trip Blank present / cooler
- 2. Trip Blank listed on COC

W or S

N/A

- 3. Type Of TB Received

**Sample Information**

Y or N

N/A

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

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_

Test Strip Lot #: 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

RM001  
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 2/9/2018 9:15:00 AM

Reviewer: \_\_\_\_\_

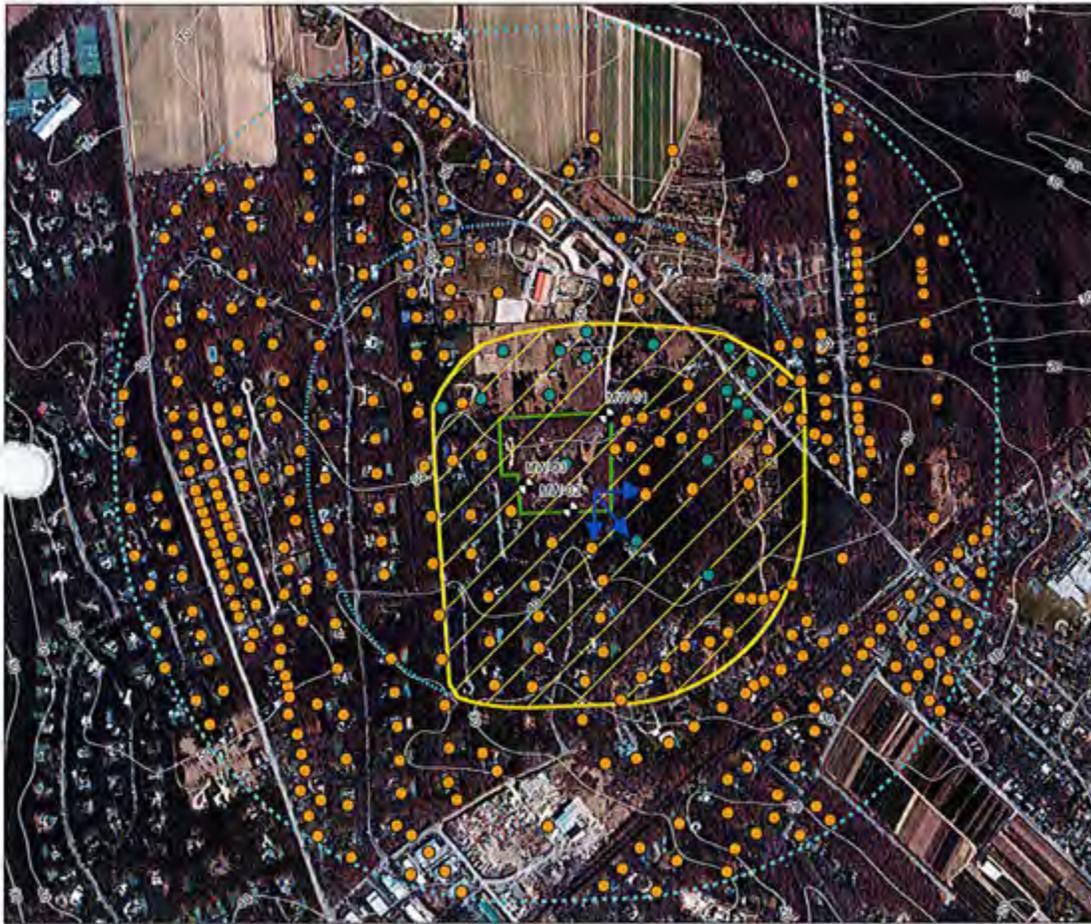
Date: \_\_\_\_\_

JC60421: Chain of Custody

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5.2  
5

Attachment B – Quogue Landfill Area Receptors Figure



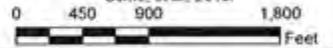
- Monitoring Well Locations
- Elevation Contour (feet)
- Estimated GW Flow Range
- Area Receptors
  - Area Receptors
  - Focus List
- Potential Contaminant Flow Area
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Estimated Site Boundary
- Water Feature

**Focus List Selection Criteria:**

Downgradient Private Wells or Public Water Supply Wells Within 0.25 Miles of Landfill Boundary

**References:**

"Water Table and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy, and Lloyd Aquifers of Long Island, New York, April-May 2013"  
- Como, et al., 2015.



Region 1 Suffolk County



Department of Environmental Conservation

Quogue Landfill  
Area Receptors DRAFT

Inactive Landfill Initiative

**PARSONS**

301 PLAINFIELD ROAD SUITE 300 SYRACUSE, NY 13212 | 315-451-9900