

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

Landfill Name: Palmyra Landfill

Region: 8

SWID: 59S08

Date of Field Activities: 12/07/17 – 12/19/17, 6/4/18 – 7/10/18

Summary of Field Activities

In 2017, existing monitoring wells were sampled at the New (Closed) Landfill portion of the site to assess impacts to drinking water sources and nearby receptors. At this time, leachate seep samples were also collected from the Old Landfill portion of the site on the north side of Garnsey Rd. In 2018, monitoring wells were installed at the Old Landfill. Five monitoring wells were installed and developed according to the FAP, with minor deviations (see comments). All five newly installed wells at the Old Landfill were sampled in accordance with the FAP to assess impacts to drinking water sources and nearby receptors. Two additional surface water samples were collected as well.

Monitoring Wells Sampled

Monitoring Well ID	Date	Sample Collected (yes/no)	Comments
8-WAY-001-MW-01	12/07/17	Yes	Sampled with peristaltic pump at 170-200 mL/min. Parameters stabilized during purge of 2.1 gallons.
8-WAY-001-MW-02	12/07/17	Yes	Sampled with peristaltic pump at 230 mL/min. Parameters stabilized during purge of 3 gallons.
8-WAY-001-MW-03	12/07/17	Yes	Sampled with peristaltic pump at 220 mL/min. Parameters stabilized during purge of 2.3 gallons.
MW-04	7/10/18	Yes	Sampled with bladder pump at 160 mL/min. Parameters stabilized during purge of 4 gallons.
MW-05	7/10/18	Yes	Sampled with peristaltic pump at 270-500 mL/min. Parameters stabilized during purge of 3.5 gallons.

MW-06	7/9/18	Yes	Sampled with peristaltic pump at 125-275 mL/min. Parameters stabilized during purge of 3 gallons.
MW-07	7/9/18	Yes	Sampled with peristaltic pump at 250-275 mL/min. Parameters stabilized during purge of 2.75 gallons.
MW-08	7/9/18	Yes	Sampled with peristaltic pump at 250-275 mL/min. Parameters stabilized during purge of 3.5 gallons.

Monitoring Wells Installed

Monitoring Well ID	Longitude	Latitude	Elevation	Well Development Date	Comments
MW-04	43.04787223	-77.1801809	528.623	6/14/18	Used 20' of screen to capture multiple water-bearing layers.
MW-05	43.04738932	-77.1798159	529.154	6/12/18	
MW-06	43.04709045	-77.1795503	529.074	6/12/18	
MW-07	43.04641395	-77.1788045	530.903	6/12/18-6/13/18	
MW-08	43.04552844	-77.178422	538.938	6/13/18-6/14/18	

Other Samples

Sample Location	Sample Type	Date	Comments
8-WAY-001-SEEP-01	Leachate Surface	12/08/17	
8-WAY-001-SEEP-02	Leachate Surface	12/08/17 12/19/17	Collected half of a sample set during 2 nd visit. Collected remainder of sample set during 3 rd visit.
8-WAY-001-SEEP-03	Leachate Surface	12/08/17	
8-WAY-001-005-SW-01	Surface Water	7/10/18	Collected from standing water in swamp south of MW-04.
8-WAY-001-005-SW-02	Surface Water	7/10/18	Collected from standing water in swamp east of MW-06.

NA	Field Blank	7/9/18	Field QC
NA	Equipment Blank	7/9/18	Field QC
NA	Field Blank	7/10/18	Field QC

Figures

Figure 1	Site map
Figure 2	Sample Locations, New Landfill
Figure 3	Sample Locations, Old Landfill

Attachments

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Attachment 2	Boring and Well Construction Logs
Attachment 3	Well Development Logs
Attachment 4	Groundwater Sampling Logs
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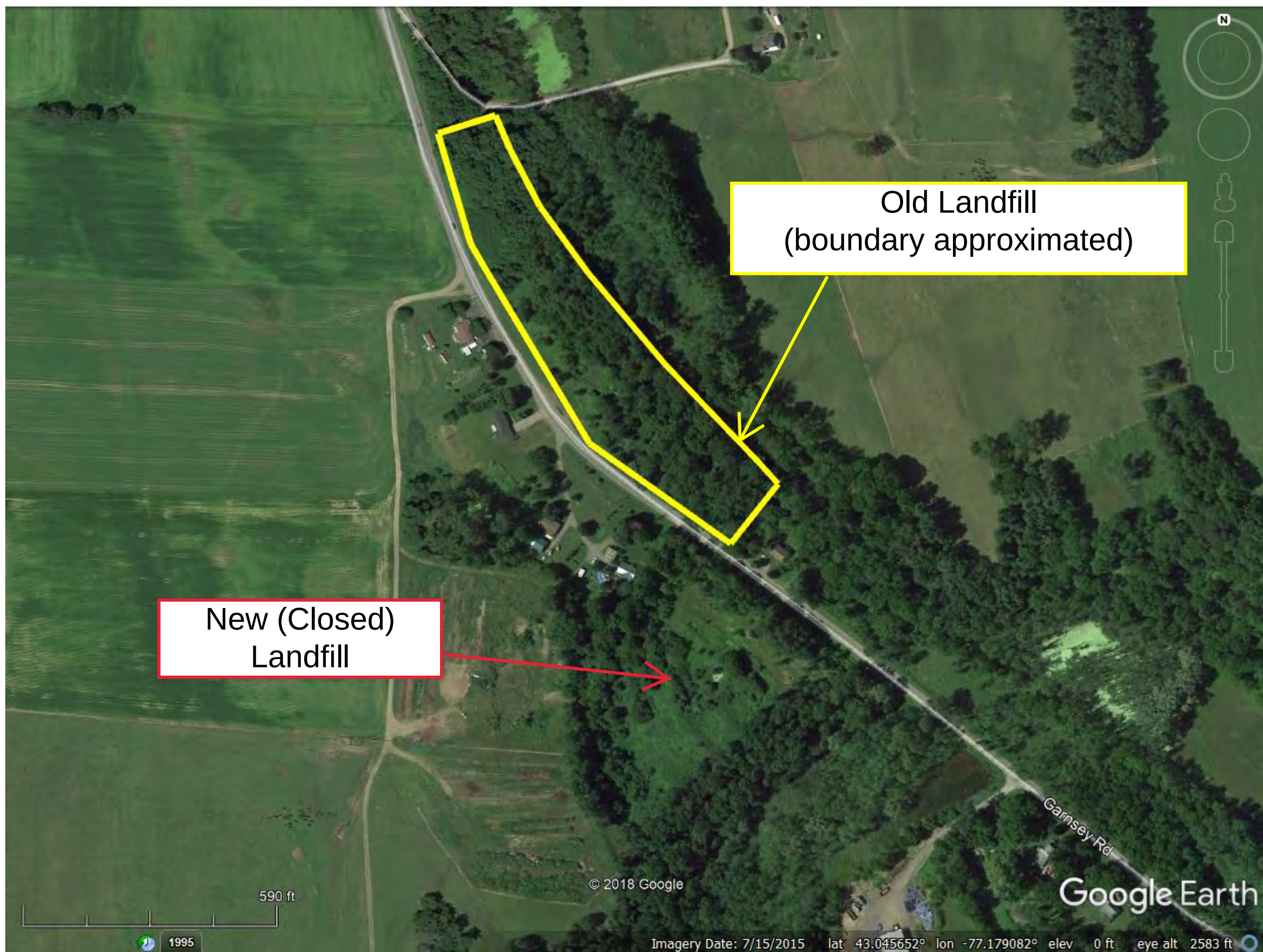


Figure 1: Locations of New (Closed) and Old Landfills in Palmyra, NY

Palmyra New (Closed) Landfill

Groundwater sampling locations

Legend

 Groundwater monitoring well



Google Earth

© 2018 Google Figure 2: New (Closed) Landfill Sampling Locations

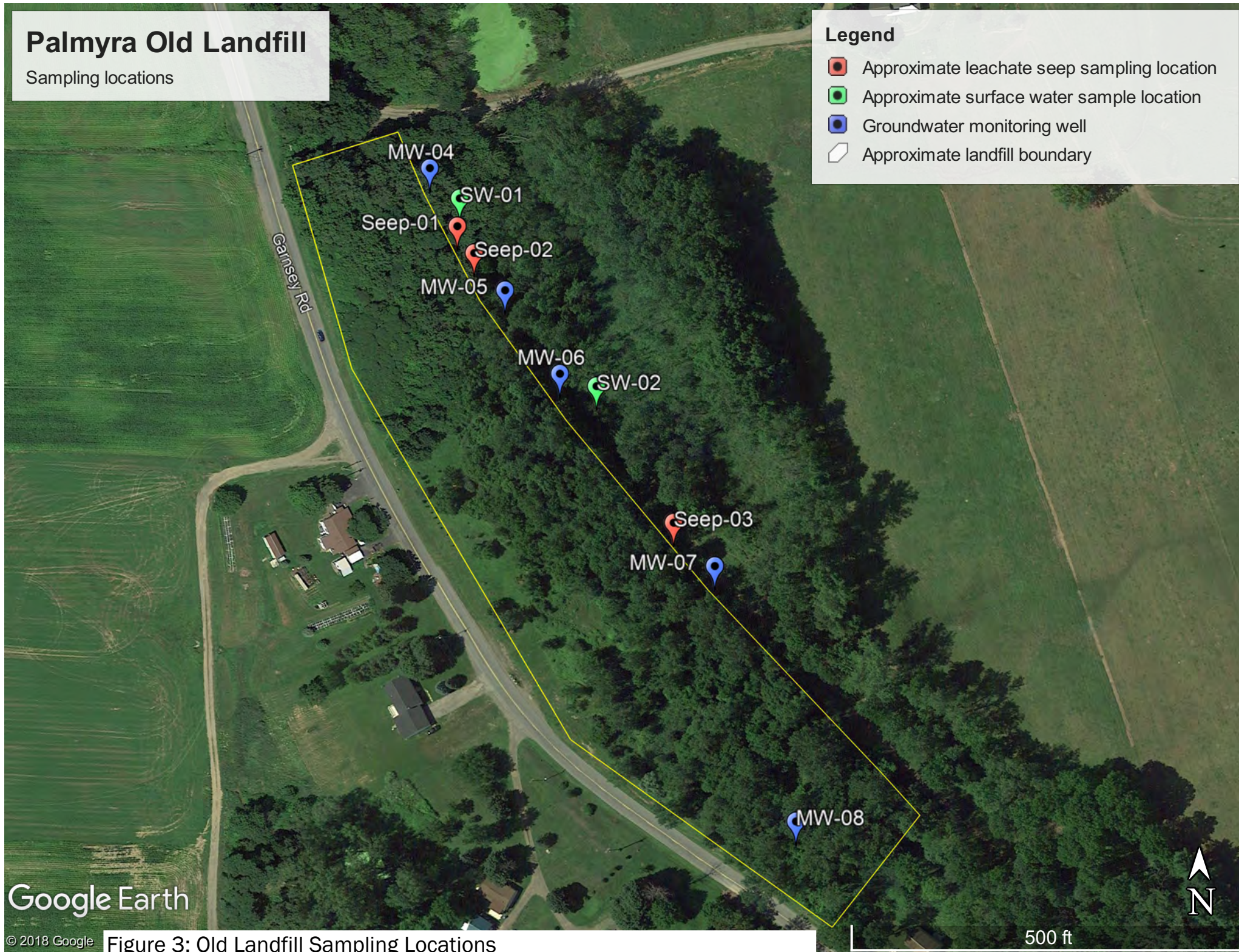
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Palmyra Old Landfill

Sampling locations

Legend

- Approximate leachate seep sampling location
- Approximate surface water sample location
- Groundwater monitoring well
- Approximate landfill boundary



Google Earth

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Figure 3: Old Landfill Sampling Locations

Attachments

**HYDROGEOLOGIC INVESTIGATION
AT THE
PALMYRA LANDFILL SITE
NYSDEC REGION 8 - WAYNE COUNTY
PALMYRA, NEW YORK**

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Site Specific Work Plan For Hydrogeologic Investigation At The Palmyra 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. The Initiative is in response to The Clean Water Infrastructure Act of 2017.

The Palmyra landfill consists of two separate disposal areas. An older landfill is located north of Garnsey Road in an old trolley-bed spurting away from the present-day Barge Canal, and a 'newer' landfill is located south of Garnsey Road.

In December 2017, three monitoring wells located around the newer landfill were sampled and subsequently analyzed for most of the analytes shown on Table 1. Only iron, aluminum, magnesium and manganese exceeded the NYSDEC Class GA groundwater quality criteria in one or more wells (Attachment 1 provides a summary of the results). Based on those results, no further sampling at the newer Palmyra Landfill is recommended at this time.

The older portion of the landfill, on the north side of Garnsey Road has some soil cover, but NYSDEC has no records of the area being formally closed in accordance with landfill regulations. The older landfill consists of household and possibly industrial waste dumped over the embankment along Garnsey Road. Historical aerial photos suggest the site was actively used in the late 1960s. This older landfill north of Garnsey Road is the subject of this hydrogeologic investigation.

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 older portion of the Palmyra Landfill. This objective will be accomplished by installing five groundwater monitoring wells, sampling groundwater from the wells, and analyzing the samples for a suite of potential organic and inorganic contaminants. The groundwater sample data will be evaluated to assess whether groundwater quality has been impacted by the landfill.

3.0 SITE SETTING

The old landfill can be accessed by entering the driveway for 1065 Garnsey Road. Near the first bend in the driveway, waste is protruding from the east-facing embankment. The old landfill was created along an old Erie Canal trolley road, which is several tens of feet higher than the land to the east. While inspecting the landfill in September 2017, the adjacent property owner provided additional information about the area. Municipal water had only been installed along Garnsey Road 6 to 8 years ago. The well on his property that was used before municipal water was installed is about 60 feet deep.

The leachate seep areas are at the base of the embankment and run into a small stream located in the low area east of the old landfill embankment. This low area is heavily vegetated may be wet most of the year.

On December 19, 2017, three leachate seeps were sampled at the old landfill for most of the analytes listed on Table 1. Note that only 14 of the 21 per- and polyfluoroalkyl substances (PFASs) were analyzed. Attachment 1

provides a summary table of those results. Leachate samples SEEP-02 and SEEP-03 contained elevated concentrations of per- and polyfluoroalkyl substances. Figure 1 shows the leachate seep sample locations.

3.1 GROUNDWATER OCCURRENCE AND FLOW

Based on the onsite and local topography, the groundwater table at the base of the fill area is expected to be shallow, less than 20 feet below ground surface. Based on the site topography, shallow groundwater is expected to flow to the east, from Garnsey Road toward the low-lying area at the base of the landfill, and then perhaps north, in the direction of local surface water flow. It is assumed downgradient monitoring wells will be outside the limits of the landfill to the east and south (Figure 1).

4.0 HYDROGEOLOGICAL INVESTIGATION SCOPE OF WORK

Field activities will be conducted in accordance with the programmatic 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 Palmyra 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. An explosive gas monitor will be used during test pit excavations and drilling the well borings.

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 programmatic 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 TEST PIT EXCAVATIONS AND MONITORING WELL INSTALLATIONS

One day of test pit excavations are planned to identify the limits of the older landfill, particularly to the north and south. A backhoe will be used to remove the surface soil and look for buried waste. The eastern limit of the landfill area will be assessed, as will the northern and southern extent. This work will be performed within the Town of Palmyra property boundary. If the landfilled area extends beyond the Town property, the work will stop; the adjacent property owner will be identified and contacted for permission to enter their property.

The results of the test pits will be used to modify the proposed well locations to ensure adequate coverage of the entire landfilled area, assuming permission to access off-site properties, if needed, can be obtained. Otherwise, the wells will be placed within Town property.

Once the test pits have been excavated, the trenches will be backfilled in a way that waste will be replaced first and soil will be replaced last. Any exposed waste will be covered with soil before completing the test pitting. The test pit locations will be surveyed using the Total Station to document the limits of the landfilled area.

Following hand clearing the location to 5 feet below ground surface, five well borings will be drilled into the overburden using hollow-stem augers or another acceptable technique based on the conditions present. Alternate drilling techniques are described in the programmatic FAP. Split-spoon soil samples will be collected continuously at each boring location. The borings will be advanced to the first water-bearing zone that is considered acceptable for placing a monitoring well that will yield a sufficient volume of groundwater for sampling.

Based on the site setting having wetlands surrounding the landfill area, it is anticipated that the wells will be approximately 20 feet deep. This depth assumes the wells will be placed outside the landfilled area. The well borings will be drilled deep enough to allow a 10-foot well screen to be placed, which allows for fluctuations in the water table to remain within the screened zone. This will be considered the “target depth”.

Once the target depth and conditions are reached, monitoring wells will be constructed of 2-inch inside diameter polyvinyl chloride (PVC) casing with a 10-foot long, #10-slot PVC screen with the screen extending above the water table interface, if conditions allow. Each well will be completed with a locking protective casing with about 3 feet of stick-up. Should site conditions dictate modifications to the well design, these will be made in the field by the supervising geologist.

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

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

Drill cuttings and other soils generated on-site may be spread along the ground adjacent to the borehole. Those soils that contain visibly contaminated waste will be containerized for subsequent characterization and disposal. Water generated during the investigation may be discharged to an unpaved area of the site.

4.3 GROUNDWATER AND SURFACE WATER SAMPLING

Approximately 1 to 2 weeks after 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.

Three surface water samples may be collected if approved by NYSDEC; these samples will be collected from an ephemeral stream that runs parallel to the base of the landfill and is where leachate seeps have been discharging into over time. Samples will be collected upstream, downstream and in the area where leachate seeps have been occurring. All sampling equipment will be dedicated to that sampling location or will be decontaminated between sampling locations using the methods provided in the FAP.

The groundwater and surface water samples will be analyzed for the list of analytical parameters provided in Table 1.

5.0 HYDROGEOLOGICAL INVESTIGATION REPORT

The hydrogeological report will summarize the program and site-specific objectives, the field and analytical methods used, the site geology and hydrogeology including groundwater occurrence and flow directions, and the results of the groundwater sampling.

TABLE 1 – ANALYTICAL PARAMETERS

Parameter	Method	Parameter	Method
Leachate Indicators (water samples only)		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	Per- and Polyfluoroalkyl Substances	
Chromium	SW6010C	N-ethyl perfluorooctanesulfonamidoacetic acid	Modified 537
Cobalt	SW6010C	N-methyl perfluorooctanesulfonamidoacetic 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 (PFTA)	Modified 537
Thallium	SW6010C	Perfluorotridecanoic acid (PFTriA)	Modified 537
Vanadium	SW6010C	Perfluoroundecanoic acid (PFUA)	Modified 537
Zinc	SW6010C	Perfluoroheptanesulfonic acid (PFHpS)	Modified 537
Mercury	SW7470A (water) SW7471B (soil)	Perfluorodecanesulfonic acid (PFDS)	Modified 537

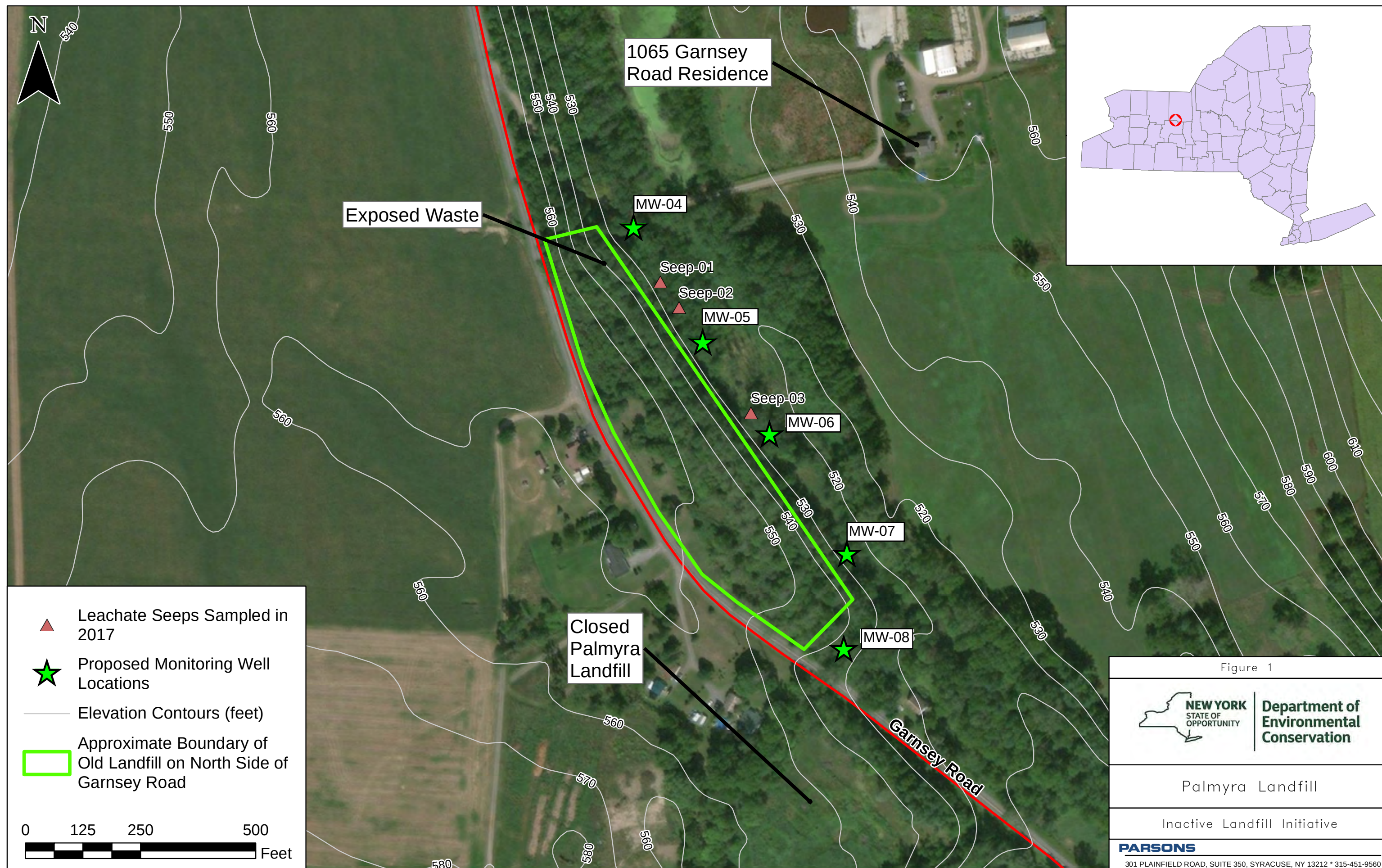
**TABLE 1 – ANALYTICAL PARAMETERS
(Continued)**

Parameter	Method	Parameter	Method
Per- and Polyfluoroalkyl Substances (cont'd)			
Perfluorobutanoic acid (PFBA)	Modified 537	Perfluorooctanesulfonamide (FOSA)	Modified 537
Perfluoropentanoic acid (PFPeA)	Modified 537	6:2 Fluorotelomer sulfonate (6:2 FTS)	Modified 537
		8:2 Fluorotelomer sulfonate (6:2 FTS)	Modified 537
Volatile Organic Compounds			
Acetone	SW8260C	Ethylbenzene	SW8260C
Acrylonitrile	SW8260C	2-Hexanone	SW8260C
Benzene	SW8260C	Bromomethane	SW8260C
Bromochloromethane	SW8260C	Chloromethane (Methyl chloride)	SW8260C
Bromodichloromethane	SW8260C	Dibromomethane	SW8260C
Bromoform	SW8260C	Methylene chloride	SW8260C
Carbon disulfide	SW8260C	2-Butanone (Methyl ethyl ketone)	SW8260C
Carbon tetrachloride	SW8260C	Idomethane (Methyl iodide)	SW8260C
Chlorobenzene	SW8260C	4-Methyl-2-pentanone (Methyl isobutyl ketone)	SW8260C
Chloroethane	SW8260C	Styrene	SW8260C
Chloroform	SW8260C	1,1,1,2-Tetrachloroethane	SW8260C
Dibromochloromethane	SW8260C	1,1,2,2-Tetrachloroethane	SW8260C
1,2-Dibromo-3-chloropropane	SW8260C	Tetrachloroethene	SW8260C
1,2-Dibromoethane (Ethylene dibromide)	SW8260C	Toluene	SW8260C
1,2-Dichlorobenzene	SW8260C	1,1,1-Trichloroethane	SW8260C
1,4-Dichlorobenzene	SW8260C	1,1,2-Trichloroethane	SW8260C
trans-1,4-Dichloro-2-butene	SW8260C	Trichloroethene	SW8260C
1,1-Dichloroethane	SW8260C	Trichlorofluoromethane	SW8260C
1,2-Dichloroethane	SW8260C	1,2,3-Trichloropropane	SW8260C
1,1-Dichloroethene	SW8260C	Vinyl acetate	SW8260C
cis-1,2-Dichloroethene	SW8260C	Vinyl chloride	SW8260C
trans-1,2-Dichloroethene	SW8260C	o-Xylene	SW8260C
1,2-Dichloropropane	SW8260C	m,p-Xylene	SW8260C
cis-1,3-Dichlororpropene	SW8260C	Xylenes, Total	SW8260C
trans-1,3-Dichlororpropene	SW8260C		

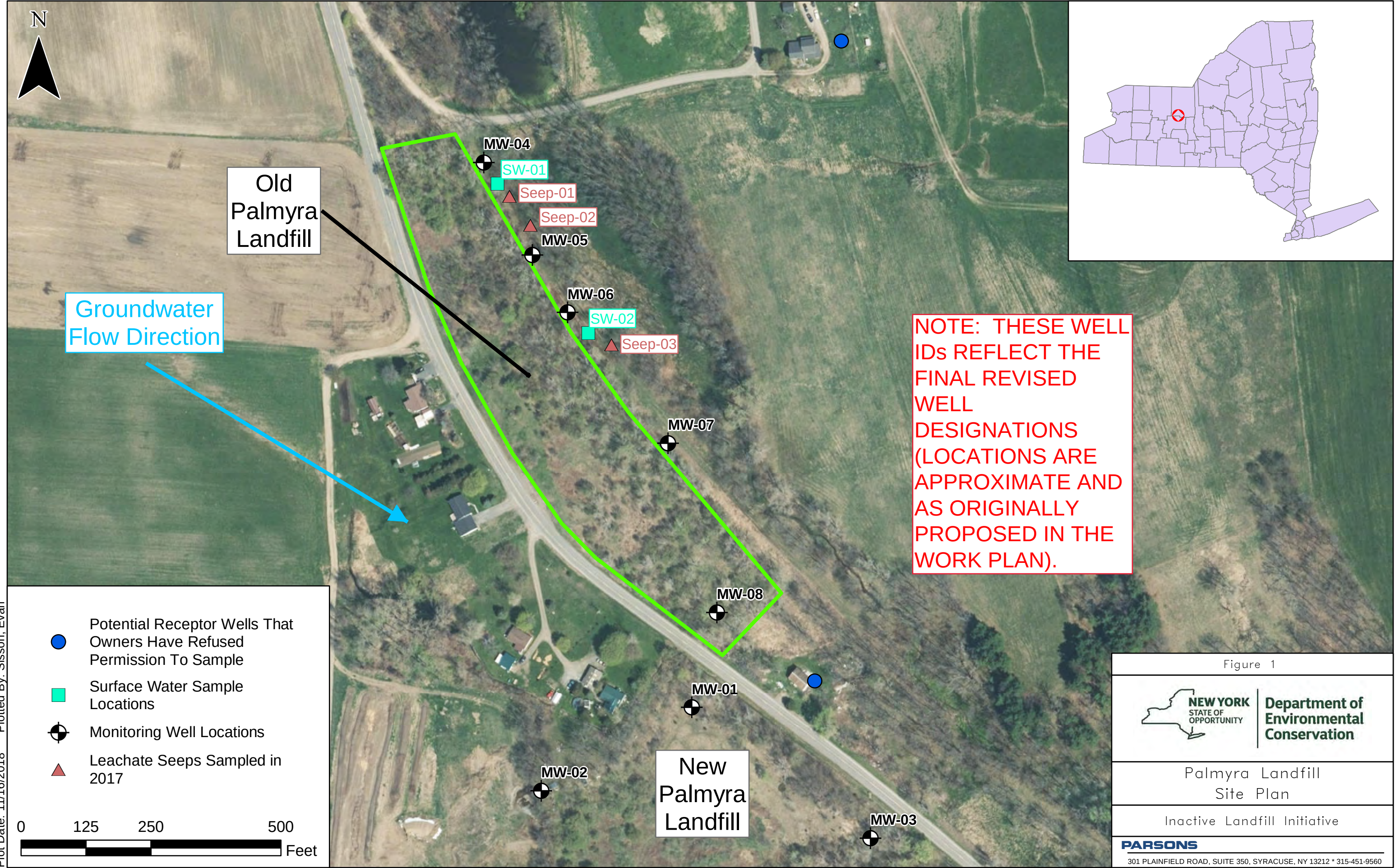
TABLE 2 – ANALYTICAL SAMPLE SUMMARY

Samples	Matrix	Laboratory Analysis	No. of Samples	Trip Blank	Equipment/ Field Blank	Total
MW-4	Groundwater	See Table 1	1			1
MW-5	Groundwater	See Table 1	1			1
MW-6	Groundwater	See Table 1	1			1
MW-7	Groundwater	See Table 1	1			1
MW-8	Groundwater	See Table 1	1			1
SW-1	Surface Water	See Table 1	1			1
SW-2	Surface Water	See Table 1	1			1
SW-3	Surface Water	See Table 1	1			1
TB-1	Water	VOCs		1*		1
FB-1	Water	PFASs only; See Table 1			1*	1
EB-1	Water	PFASs only; See Table 1			1*	1

* Per day



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Plot Date: 11/16/2018 Plotted By: Sisson, Evan



ATTACHMENT 1

SUMMARY OF LEACHATE AND GROUNDWATER SAMPLING CONDUCTED IN 2017

Location Description				8-WAY-001-001-04	8-WAY-001-001-05	8-WAY-001-001-06	8-WAY-001-002-04	8-WAY-001-002-05
Location ID				WQ	WQ	WQ	WQ	WQ
Sample ID				480-128629-4	480-128629-5	480-128629-6	480-128714-4	480-128714-5
Matrix				12/7/2017	12/7/2017	12/7/2017	12/8/2017	12/8/2017
Lab Sample ID				FB	EB	TB	FB	TB
Sample Date								
Sample Type Code								
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit				
A2320B	Alkalinity, Total (As CaCO3)	mg/l						
E300.0	Bromide	mg/l	2					
E300.0	Chloride (As Cl)	mg/l	250					
E300.0	Sulfate (As SO4)	mg/l	250					
E350.1	Nitrogen, Ammonia (As N)	mg/l	2					
E410.4	COD - Chemical Oxygen Demand	mg/l						
E537-LL	2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l			20 U	19 U		21 U
E537-LL	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l			20 U	19 U		21 U
E537-LL	Perfluorobutanesulfonic acid (PFBS)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorodecanoic acid (PFDA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorododecanoic acid (PFDoA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluoroheptanoic acid (PFHpA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorohexanesulfonic acid (PFHxS)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorohexanoic acid (PFHxA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorononanoic acid (PFNA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorooctanesulfonic acid (PFOS)	ng/l	20		2 U	1.9 U		2.1 U
E537-LL	Perfluorooctanoic acid (PFOA)	ng/l	20		2 U	1.9 U		2.1 U
E537-LL	Perfluorotetradecanoic acid (PFTA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluorotridecanoic Acid (PFTrIA)	ng/l			2 U	1.9 U		2.1 U
E537-LL	Perfluoroundecanoic Acid (PFUnA)	ng/l			2 U	1.9 U		2.1 U
SM 2340 C	Hardness (As CaCO3)	mg/l						
SM2540C	Total Dissolved Solids	mg/l						
SW6010C	Aluminum	mg/l	0.1					
SW6010C	Antimony	mg/l	0.003					
SW6010C	Arsenic	mg/l	0.025					
SW6010C	Barium	mg/l	1					
SW6010C	Beryllium	mg/l	0.003					
SW6010C	Boron	mg/l	1					
SW6010C	Cadmium	mg/l	0.005					
SW6010C	Calcium	mg/l						
SW6010C	Chromium, Total	mg/l	0.05					
SW6010C	Cobalt	mg/l						
SW6010C	Copper	mg/l	0.2					
SW6010C	Iron	mg/l	0.3					
SW6010C	Lead	mg/l	0.025					
SW6010C	Magnesium	mg/l	35					
SW6010C	Manganese	mg/l	0.3					
SW6010C	Nickel	mg/l	0.1					
SW6010C	Potassium	mg/l						
SW6010C	Selenium	mg/l	0.01					
SW6010C	Silver	mg/l	0.05					
SW6010C	Sodium	mg/l	20					
SW6010C	Thallium	mg/l	0.0005					
SW6010C	Vanadium	mg/l						
SW6010C	Zinc	mg/l	2					

Location Description				8-WAY-001-001-04	8-WAY-001-001-05	8-WAY-001-001-06	8-WAY-001-002-04	8-WAY-001-002-05
Location ID				WQ	WQ	WQ	WQ	WQ
Sample ID				480-128629-4	480-128629-5	480-128629-6	480-128714-4	480-128714-5
Matrix				12/7/2017	12/7/2017	12/7/2017	12/8/2017	12/8/2017
Lab Sample ID				FB	EB	TB	FB	TB
Sample Date								
Sample Type Code								
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit				
SW7470A	Mercury	mg/l	0.0007					
SW8260C	1,1,1,2-Tetrachloroethane	ug/l	5			1 U		1 U
SW8260C	1,1,1-Trichloroethane (TCA)	ug/l	5			1 U		1 U
SW8260C	1,1,2,2-Tetrachloroethane	ug/l	5			1 U		1 U
SW8260C	1,1,2-Trichloroethane	ug/l	1			1 U		1 U
SW8260C	1,1-Dichloroethane	ug/l	5			1 U		1 U
SW8260C	1,1-Dichloroethene	ug/l	5			1 U		1 U
SW8260C	1,2,3-Trichloropropane	ug/l	0.04			1 U		1 U
SW8260C	1,2-Dibromo-3-Chloropropane	ug/l	0.04			1 U		10 UJ
SW8260C	1,2-Dibromoethane (Ethylene Dibromide)	ug/l	0.0006			1 U		1 U
SW8260C	1,2-Dichlorobenzene	ug/l	3			1 U		1 U
SW8260C	1,2-Dichloroethane	ug/l	0.6			1 U		1 U
SW8260C	1,2-Dichloropropane	ug/l	1			1 U		1 U
SW8260C	1,4-Dichlorobenzene	ug/l	3			1 U		1 U
SW8260C	2-Hexanone	ug/l	50			5 U		10 U
SW8260C	Acetone	ug/l	50			10 U		25 U
SW8260C	Acrylonitrile	ug/l	5			5 U		10 U
SW8260C	Benzene	ug/l	1			1 U		1 U
SW8260C	Bromochloromethane	ug/l	5			1 U		1 U
SW8260C	Bromodichloromethane	ug/l	50			1 U		1 U
SW8260C	Bromoform	ug/l	50			1 U		1 U
SW8260C	Bromomethane	ug/l	5			1 U		1 U
SW8260C	Carbon Disulfide	ug/l	60			1 U		1 U
SW8260C	Carbon Tetrachloride	ug/l	5			1 U		1 UJ
SW8260C	Chlorobenzene	ug/l	5			1 U		1 U
SW8260C	Chloroethane	ug/l	5			1 U		1 U
SW8260C	Chloroform	ug/l	7			1 U		1 U
SW8260C	Chloromethane	ug/l	5			1 U		1 U
SW8260C	Cis-1,2-Dichloroethylene	ug/l	5			1 U		1 U
SW8260C	Cis-1,3-Dichloropropene	ug/l	0.4			1 U		1 U
SW8260C	Dibromochloromethane	ug/l	50			1 U		1 U
SW8260C	Dibromomethane	ug/l	5			1 U		1 U
SW8260C	Ethylbenzene	ug/l	5			1 U		1 U
SW8260C	Iodomethane (Methyl Iodide)	ug/l	5			1 U		10 U
SW8260C	m,p-Xylene	ug/l	5			2 U		2 U
SW8260C	Methyl Ethyl Ketone (2-Butanone)	ug/l	50			10 U		50 U
SW8260C	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	ug/l				5 U		10 U
SW8260C	Methylene Chloride	ug/l	5			1 U		5 U
SW8260C	O-Xylene (1,2-Dimethylbenzene)	ug/l	5			1 U		1 U
SW8260C	Styrene	ug/l	5			1 U		1 U
SW8260C	Tetrachloroethylene (PCE)	ug/l	5			1 U		1 U
SW8260C	Toluene	ug/l	5			1 U		1 U
SW8260C	Trans-1,2-Dichloroethene	ug/l	5			1 U		1 U
SW8260C	Trans-1,3-Dichloropropene	ug/l	0.4			1 U		1 U
SW8260C	Trans-1,4-Dichloro-2-Butene	ug/l	5			1 U		5 U

Location Description				8-WAY-001-001-04 WQ 480-128629-4 12/7/2017 FB	8-WAY-001-001-05 WQ 480-128629-5 12/7/2017 EB	8-WAY-001-001-06 WQ 480-128629-6 12/7/2017 TB	8-WAY-001-002-04 WQ 480-128714-4 12/8/2017 FB	8-WAY-001-002-05 WQ 480-128714-5 12/8/2017 TB
Location ID								
Sample ID								
Matrix								
Lab Sample ID								
Sample Date								
Sample Type Code								
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit				
SW8260C	Trichloroethylene (TCE)	ug/l	5				1 U	1 U
SW8260C	Trichlorofluoromethane	ug/l	5				1 U	1 U
SW8260C	Vinyl Acetate	ug/l					5 U	10 U
SW8260C	Vinyl Chloride	ug/l	2				1 UJ	1 U
SW8260C	Xylenes, Total	ug/l	5				2 U	3 U
SW8270DSIM	1,4-Dioxane (P-Dioxane)	ug/l						
SW8270DSIM	Acenaphthene	ug/l	20					
SW8270DSIM	Acenaphthylene	ug/l						
SW8270DSIM	Anthracene	ug/l	50					
SW8270DSIM	Benzo(A)Anthracene	ug/l	0.002					
SW8270DSIM	Benzo(A)Pyrene	ug/l						
SW8270DSIM	Benzo(B)Fluoranthene	ug/l	0.002					
SW8270DSIM	Benzo(G,H,I)Perylene	ug/l						
SW8270DSIM	Benzo(K)Fluoranthene	ug/l	0.002					
SW8270DSIM	Chrysene	ug/l	0.002					
SW8270DSIM	Dibenz(A,H)Anthracene	ug/l						
SW8270DSIM	Fluoranthene	ug/l	50					
SW8270DSIM	Fluorene	ug/l	50					
SW8270DSIM	Indeno(1,2,3-C,D)Pyrene	ug/l	0.002					
SW8270DSIM	Naphthalene	ug/l	10					
SW8270DSIM	Phenanthrene	ug/l	50					
SW8270DSIM	Pyrene	ug/l	50					
SW9060	Total Organic Carbon	mg/l						

Location Description				8-WAY-001-002-06 WQ 480-128714-6 12/8/2017 EB	8-WAY-001-MW-01 8-WAY-001-001-02 WG 480-128629-2 12/7/2017 N	8-WAY-001-MW-02 8-WAY-001-001-01 WG 480-128629-1 12/7/2017 N	8-WAY-001-MW-03 8-WAY-001-001-03 WG 480-128629-3 12/7/2017 N	8-WAY-001-SEEP-01 8-WAY-001-002-01 WS 480-128714-1 12/19/2017 N
Location ID								
Sample ID								
Matrix								
Lab Sample ID								
Sample Date								
Sample Type Code								
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit				
A2320B	Alkalinity, Total (As CaCO3)	mg/l				485		764
E300.0	Bromide	mg/l	2			0.4 U	0.4 U	1 U
E300.0	Chloride (As Cl)	mg/l	250			5.6	0.63 J	336
E300.0	Sulfate (As SO4)	mg/l	250			75	6.1	10 U
E350.1	Nitrogen, Ammonia (As N)	mg/l	2			0.02 U	0.02 U	9.4
E410.4	COD - Chemical Oxygen Demand	mg/l				10 U	10 U	2880
E537-LL	2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l			20 U	20 U	19 U	24 U
E537-LL	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l			20 U	20 U	19 U	20 J
E537-LL	Perfluorobutanesulfonic acid (PFBS)	ng/l			2 U	1 J	0.67 J	0.99 J
E537-LL	Perfluorodecanoic acid (PFDA)	ng/l			2 U	2 U	1.9 U	0.46 J
E537-LL	Perfluorododecanoic acid (PFDoA)	ng/l			2 U	2 U	1.9 U	2.4 U
E537-LL	Perfluoroheptanoic acid (PFHpA)	ng/l			2 U	1.7 J	0.78 J	11
E537-LL	Perfluorohexanesulfonic acid (PFHxS)	ng/l			2 U	0.96 J	1.9 U	5.9
E537-LL	Perfluorohexanoic acid (PFHxA)	ng/l			2 U	1.5 J	0.96 J	8.4
E537-LL	Perfluorononanoic acid (PFNA)	ng/l			2 U	2 U	0.33 J	0.84 J
E537-LL	Perfluorooctanesulfonic acid (PFOS)	ng/l		20	2 U	3.2	0.67 J	71
E537-LL	Perfluorooctanoic acid (PFOA)	ng/l		20	2 U	13	1.6 J	390
E537-LL	Perfluorotetradecanoic acid (PFTA)	ng/l			2 U	2 U	1.9 U	2.4 U
E537-LL	Perfluorotridecanoic Acid (PFTrIA)	ng/l			2 U	2 U	1.9 U	2.4 U
E537-LL	Perfluoroundecanoic Acid (PFUnA)	ng/l			2 U	2 U	1.9 U	2.4 U
SM 2340 C	Hardness (As CaCO3)	mg/l				500	328	1050
SM2540C	Total Dissolved Solids	mg/l				581	388	1290
SW6010C	Aluminum	mg/l	0.1			0.07 J	0.2 U	23.8
SW6010C	Antimony	mg/l	0.003			0.02 U	0.02 U	0.1 U
SW6010C	Arsenic	mg/l	0.025			0.015 U	0.015 U	0.032
SW6010C	Barium	mg/l	1			0.18	0.06	10.2
SW6010C	Beryllium	mg/l	0.003			0.002 U	0.002 U	0.0015 J
SW6010C	Boron	mg/l	1			0.047	0.015 J	0.76
SW6010C	Cadmium	mg/l	0.005			0.002 U	0.002 U	0.01 U
SW6010C	Calcium	mg/l				125	91.8	834
SW6010C	Chromium, Total	mg/l	0.05			0.004 U	0.004 U	0.05
SW6010C	Cobalt	mg/l				0.06	0.004 U	0.0041 J
SW6010C	Copper	mg/l	0.2			0.01 U	0.01 U	0.093
SW6010C	Iron	mg/l	0.3			1.7	0.05 U	2170
SW6010C	Lead	mg/l	0.025			0.01 U	0.01 U	0.29
SW6010C	Magnesium	mg/l	35			51.1	22.3	119
SW6010C	Manganese	mg/l	0.3			1	0.0036	10.6
SW6010C	Nickel	mg/l	0.1			0.0022 J	0.01 U	0.059
SW6010C	Potassium	mg/l				1.7	3.4	26
SW6010C	Selenium	mg/l	0.01			0.025 U	0.025 U	0.031
SW6010C	Silver	mg/l	0.05			0.006 U	0.006 U	0.03 U
SW6010C	Sodium	mg/l	20			6.3	1.2	185
SW6010C	Thallium	mg/l	0.0005			0.02 U	0.02 U	0.1 U
SW6010C	Vanadium	mg/l				0.005 U	0.005 U	0.1
SW6010C	Zinc	mg/l	2			0.0036 J	0.01 U	1.3

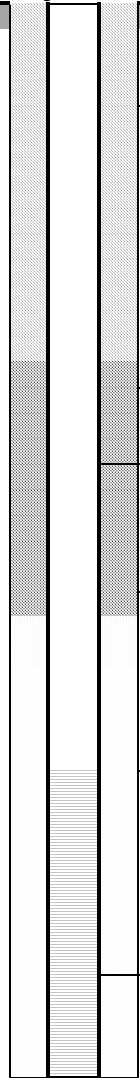
Location Description					8-WAY-001-002-06		8-WAY-001-MW-01		8-WAY-001-MW-02		8-WAY-001-MW-03		8-WAY-001-SEEP-01	
Location ID					WQ		8-WAY-001-001-02		8-WAY-001-001-01		8-WAY-001-001-03		8-WAY-001-002-01	
Sample ID					480-128714-6		WG		WG		WG		WS	
Matrix					480-128629-2		480-128629-2		480-128629-1		480-128629-3		480-128714-1	
Lab Sample ID					12/8/2017		12/7/2017		12/7/2017		12/7/2017		12/19/2017	
Sample Date					EB		N		N		N		N	
Sample Type Code														
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit										
SW7470A	Mercury	mg/l	0.0007				0.0002	U	0.0002	U	0.0002	U	0.001	U
SW8260C	1,1,1,2-Tetrachloroethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	1,1,1-Trichloroethane (TCA)	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	1,1,2,2-Tetrachloroethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	1,1,2-Trichloroethane	ug/l	1				1	U	1	U	1	U	1	U
SW8260C	1,1-Dichloroethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	1,1-Dichloroethene	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	1,2,3-Trichloropropane	ug/l	0.04				1	U	1	U	1	U	1	U
SW8260C	1,2-Dibromo-3-Chloropropane	ug/l	0.04				1	U	1	U	1	U	10	UJ
SW8260C	1,2-Dibromoethane (Ethylene Dibromide)	ug/l	0.0006				1	U	1	U	1	U	1	U
SW8260C	1,2-Dichlorobenzene	ug/l	3				1	U	1	U	1	U	1	U
SW8260C	1,2-Dichloroethane	ug/l	0.6				1	U	1	U	1	U	1	U
SW8260C	1,2-Dichloropropane	ug/l	1				1	U	1	U	1	U	1	U
SW8260C	1,4-Dichlorobenzene	ug/l	3				1	U	1	U	1	U	1	U
SW8260C	2-Hexanone	ug/l	50				5	U	5	U	5	U	10	U
SW8260C	Acetone	ug/l	50				10	U	10	U	10	U	37	U
SW8260C	Acrylonitrile	ug/l	5				5	U	5	U	5	U	10	U
SW8260C	Benzene	ug/l	1				1	U	1	U	1	U	1	U
SW8260C	Bromochloromethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Bromodichloromethane	ug/l	50				1	U	1	U	1	U	1	U
SW8260C	Bromoform	ug/l	50				1	U	1	U	1	U	1	U
SW8260C	Bromomethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Carbon Disulfide	ug/l	60				1	U	1	U	1	U	1	U
SW8260C	Carbon Tetrachloride	ug/l	5				1	U	1	U	1	U	1	UJ
SW8260C	Chlorobenzene	ug/l	5				1	U	1	U	1	U	0.41	J
SW8260C	Chloroethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Chloroform	ug/l	7				1	U	1	U	1	U	1	U
SW8260C	Chloromethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Cis-1,2-Dichloroethylene	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Cis-1,3-Dichloropropene	ug/l	0.4				1	U	1	U	1	U	1	U
SW8260C	Dibromochloromethane	ug/l	50				1	U	1	U	1	U	1	U
SW8260C	Dibromomethane	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Ethylbenzene	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Iodomethane (Methyl Iodide)	ug/l	5				1	U	1	U	1	U	10	U
SW8260C	m,p-Xylene	ug/l	5				2	U	2	U	2	U	2	U
SW8260C	Methyl Ethyl Ketone (2-Butanone)	ug/l	50				10	U	10	U	10	U	50	U
SW8260C	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	ug/l					5	U	5	U	5	U	10	U
SW8260C	Methylene Chloride	ug/l	5				1	U	1	U	1	U	5	U
SW8260C	O-Xylene (1,2-Dimethylbenzene)	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Styrene	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Tetrachloroethylene (PCE)	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Toluene	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Trans-1,2-Dichloroethene	ug/l	5				1	U	1	U	1	U	1	U
SW8260C	Trans-1,3-Dichloropropene	ug/l	0.4				1	U	1	U	1	U	1	U
SW8260C	Trans-1,4-Dichloro-2-Butene	ug/l	5				1	U	1	U	1	U	5	U

Location Description				Location ID		Sample ID		Matrix		Lab Sample ID		Sample Date		Sample Type Code	
Analytical Method				Chemical Name		Unit		NYSDEC Class GA		PFC Action Limit					
SW8260C				Trichloroethylene (TCE)		ug/l		5							
SW8260C				Trichlorofluoromethane		ug/l		5							
SW8260C				Vinyl Acetate		ug/l		2							
SW8260C				Vinyl Chloride		ug/l		5							
SW8260C				Xylenes, Total		ug/l		5							
SW8270DSIM				1,4-Dioxane (P-Dioxane)		ug/l		20							
SW8270DSIM				Acenaphthene		ug/l		50							
SW8270DSIM				Acenaphthylene		ug/l		0.002							
SW8270DSIM				Anthracene		ug/l		0.002							
SW8270DSIM				Benzo(A)Anthracene		ug/l		0.002							
SW8270DSIM				Benzo(A)Pyrene		ug/l		0.002							
SW8270DSIM				Benzo(B)Fluoranthene		ug/l		0.002							
SW8270DSIM				Benzo(G,H,I)Perylene		ug/l		0.002							
SW8270DSIM				Benzo(K)Fluoranthene		ug/l		0.002							
SW8270DSIM				Chrysene		ug/l		0.002							
SW8270DSIM				Dibenz(A,H)Anthracene		ug/l		50							
SW8270DSIM				Fluoranthene		ug/l		50							
SW8270DSIM				Fluorene		ug/l		0.002							
SW8270DSIM				Indeno(1,2,3-C,D)Pyrene		ug/l		10							
SW8270DSIM				Naphthalene		ug/l		50							
SW8270DSIM				Phenanthrene		ug/l		50							
SW8270DSIM				Pyrene		ug/l		50							
SW9060				Total Organic Carbon		mg/l									

		Location Description			8-WAY-001-SEEP-02		8-WAY-001-SEEP-02		8-WAY-001-SEEP-03	
		Location ID			8-WAY-001-002-02		8-WAY-001-003-01		8-WAY-001-002-03	
		Sample ID			WS		WS		WS	
		Matrix			480-128714-2		480-129214-1		480-128714-3	
		Lab Sample ID			12/19/2017		12/19/2017		12/19/2017	
		Sample Date			N		N		N	
		Sample Type Code								
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit						
A2320B	Alkalinity, Total (As CaCO3)	mg/l			949				1120	
E300.0	Bromide	mg/l	2		2 U				2 U	
E300.0	Chloride (As Cl)	mg/l	250		394				377	
E300.0	Sulfate (As SO4)	mg/l	250		163				107	
E350.1	Nitrogen, Ammonia (As N)	mg/l	2				0.68		3.7	
E410.4	COD - Chemical Oxygen Demand	mg/l					616		10400	
E537-LL	2-(N-methyl perfluorooctanesulfonamido) acetic acid	ng/l			25 U				20 U	
E537-LL	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	ng/l			4.1 J				16 J	
E537-LL	Perfluorobutanesulfonic acid (PFBS)	ng/l			3.1				2.5	
E537-LL	Perfluorodecanoic acid (PFDA)	ng/l			1.3 J				1.6 J	
E537-LL	Perfluorododecanoic acid (PFDoA)	ng/l			2.5 U				2 U	
E537-LL	Perfluoroheptanoic acid (PFHpA)	ng/l			35				49	
E537-LL	Perfluorohexanesulfonic acid (PFHxS)	ng/l			10				13	
E537-LL	Perfluorohexanoic acid (PFHxA)	ng/l			25				58	
E537-LL	Perfluorononanoic acid (PFNA)	ng/l			1.7 J				2.7	
E537-LL	Perfluorooctanesulfonic acid (PFOS)	ng/l		20	52				120	
E537-LL	Perfluorooctanoic acid (PFOA)	ng/l		20	1500				1800	
E537-LL	Perfluorotetradecanoic acid (PFTA)	ng/l			2.5 U				2 U	
E537-LL	Perfluorotridecanoic Acid (PFTrA)	ng/l			2.5 U				2 U	
E537-LL	Perfluoroundecanoic Acid (PFUnA)	ng/l			2.5 U				2 U	
SM 2340 C	Hardness (As CaCO3)	mg/l					1900		1800	
SM2540C	Total Dissolved Solids	mg/l			1630				1740	
SW6010C	Aluminum	mg/l	0.1				226		330	
SW6010C	Antimony	mg/l	0.003				0.5 U		0.1 U	
SW6010C	Arsenic	mg/l	0.025				2		0.64	
SW6010C	Barium	mg/l	1				20		27.8	
SW6010C	Beryllium	mg/l	0.003				0.0099 J		0.018	
SW6010C	Boron	mg/l	1				3.1		3.1	
SW6010C	Cadmium	mg/l	0.005				0.019 J		0.031	
SW6010C	Calcium	mg/l					2280		3220	
SW6010C	Chromium, Total	mg/l	0.05				0.33		0.53	
SW6010C	Cobalt	mg/l					0.26		0.23	
SW6010C	Copper	mg/l	0.2				1.2		3.2	
SW6010C	Iron	mg/l	0.3				3330		2170	
SW6010C	Lead	mg/l	0.025				1.3		2.6	
SW6010C	Magnesium	mg/l	35				515		608	
SW6010C	Manganese	mg/l	0.3				66.6		47.9	
SW6010C	Nickel	mg/l	0.1				0.43		0.68	
SW6010C	Potassium	mg/l					107		115	
SW6010C	Selenium	mg/l	0.01				0.13 U		0.13 U	
SW6010C	Silver	mg/l	0.05				0.15 U		0.03 U	
SW6010C	Sodium	mg/l	20				203		204	
SW6010C	Thallium	mg/l	0.0005				0.1 U		0.1 U	
SW6010C	Vanadium	mg/l					0.48		0.68	
SW6010C	Zinc	mg/l	2				4		17.3	

Location Description					8-WAY-001-SEEP-02		8-WAY-001-SEEP-02		8-WAY-001-SEEP-03	
Location ID					8-WAY-001-002-02		8-WAY-001-003-01		8-WAY-001-002-03	
Sample ID					WS		WS		WS	
Lab Sample ID					480-128714-2		480-129214-1		480-128714-3	
Sample Date					12/19/2017		12/19/2017		12/19/2017	
Sample Type Code					N		N		N	
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit			0.0018		0.012	
SW7470A	Mercury	mg/l	0.0007							
SW8260C	1,1,1,2-Tetrachloroethane	ug/l	5		1 U				1 U	
SW8260C	1,1,1-Trichloroethane (TCA)	ug/l	5		1 U				1 U	
SW8260C	1,1,2,2-Tetrachloroethane	ug/l	5		1 U				1 U	
SW8260C	1,1,2-Trichloroethane	ug/l	1		1 U				1 U	
SW8260C	1,1-Dichloroethane	ug/l	5		1 U				1 U	
SW8260C	1,1-Dichloroethene	ug/l	5		1 U				1 U	
SW8260C	1,2,3-Trichloropropane	ug/l	0.04		1 U				1 U	
SW8260C	1,2-Dibromo-3-Chloropropane	ug/l	0.04		10 UJ				10 UJ	
SW8260C	1,2-Dibromoethane (Ethylene Dibromide)	ug/l	0.0006		1 U				1 U	
SW8260C	1,2-Dichlorobenzene	ug/l	3		1 U				1 U	
SW8260C	1,2-Dichloroethane	ug/l	0.6		1 U				1 U	
SW8260C	1,2-Dichloropropane	ug/l	1		1 U				1 U	
SW8260C	1,4-Dichlorobenzene	ug/l	3		1 U				1.1	
SW8260C	2-Hexanone	ug/l	50		10 U				10 U	
SW8260C	Acetone	ug/l	50		17 J				25	
SW8260C	Acrylonitrile	ug/l	5		10 U				10 U	
SW8260C	Benzene	ug/l	1		1 U				1 U	
SW8260C	Bromochloromethane	ug/l	5		1 U				1 U	
SW8260C	Bromodichloromethane	ug/l	50		1 U				1 U	
SW8260C	Bromoform	ug/l	50		1 U				1 U	
SW8260C	Bromomethane	ug/l	5		1 U				1 U	
SW8260C	Carbon Disulfide	ug/l	60		1 U				1 U	
SW8260C	Carbon Tetrachloride	ug/l	5		1 UJ				1 UJ	
SW8260C	Chlorobenzene	ug/l	5		1 U				1.1	
SW8260C	Chloroethane	ug/l	5		1 U				1 U	
SW8260C	Chloroform	ug/l	7		1 U				1 U	
SW8260C	Chloromethane	ug/l	5		1 U				1 U	
SW8260C	Cis-1,2-Dichloroethylene	ug/l	5		1 U				1 U	
SW8260C	Cis-1,3-Dichloropropene	ug/l	0.4		1 U				1 U	
SW8260C	Dibromochloromethane	ug/l	50		1 U				1 U	
SW8260C	Dibromomethane	ug/l	5		1 U				1 U	
SW8260C	Ethylbenzene	ug/l	5		1 U				1 U	
SW8260C	Iodomethane (Methyl Iodide)	ug/l	5		10 U				10 U	
SW8260C	m,p-Xylene	ug/l	5		2 U				2 U	
SW8260C	Methyl Ethyl Ketone (2-Butanone)	ug/l	50		50 U				50 U	
SW8260C	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	ug/l			10 U				10 U	
SW8260C	Methylene Chloride	ug/l	5		5 U				5 U	
SW8260C	O-Xylene (1,2-Dimethylbenzene)	ug/l	5		1 U				1 U	
SW8260C	Styrene	ug/l	5		1 U				1 U	
SW8260C	Tetrachloroethylene (PCE)	ug/l	5		1 U				1 U	
SW8260C	Toluene	ug/l	5		1 U				1 U	
SW8260C	Trans-1,2-Dichloroethene	ug/l	5		1 U				1 U	
SW8260C	Trans-1,3-Dichloropropene	ug/l	0.4		1 U				1 U	
SW8260C	Trans-1,4-Dichloro-2-Butene	ug/l	5		5 U				5 U	

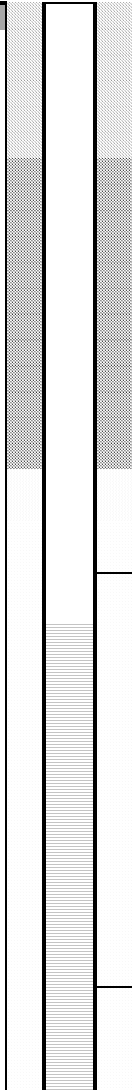
Location Description				8-WAY-001-SEEP-02		8-WAY-001-SEEP-02		8-WAY-001-SEEP-03		
Location ID				8-WAY-001-002-02		8-WAY-001-003-01		8-WAY-001-002-03		
Sample ID				WS		WS		WS		
Matrix				480-128714-2		480-129214-1		480-128714-3		
Lab Sample ID				12/19/2017		12/19/2017		12/19/2017		
Sample Date				N		N		N		
Sample Type Code										
Analytical Method	Chemical Name	Unit	NYSDEC Class GA	PFC Action Limit						
SW8260C	Trichloroethylene (TCE)	ug/l	5		1	U		1	U	
SW8260C	Trichlorofluoromethane	ug/l	5		1	U		1	U	
SW8260C	Vinyl Acetate	ug/l			10	U		10	U	
SW8260C	Vinyl Chloride	ug/l	2		1	U		1	U	
SW8260C	Xylenes, Total	ug/l	5		3	U		3	U	
SW8270DSIM	1,4-Dioxane (P-Dioxane)	ug/l					0.41	U	0.39	J
SW8270DSIM	Acenaphthene	ug/l	20				0.051	U	0.029	J
SW8270DSIM	Acenaphthylene	ug/l					0.051	U	0.052	U
SW8270DSIM	Anthracene	ug/l	50				0.051	U	0.052	U
SW8270DSIM	Benzo(A)Anthracene	ug/l	0.002				0.051	U	0.052	U
SW8270DSIM	Benzo(A)Pyrene	ug/l					0.051	U	0.052	U
SW8270DSIM	Benzo(B)Fluoranthene	ug/l	0.002				0.051	U	0.036	J
SW8270DSIM	Benzo(G,H,I)Perylene	ug/l					0.051	U	0.052	UJ
SW8270DSIM	Benzo(K)Fluoranthene	ug/l	0.002				0.051	U	0.052	U
SW8270DSIM	Chrysene	ug/l	0.002				0.051	U	0.026	J
SW8270DSIM	Dibenz(A,H)Anthracene	ug/l					0.051	U	0.052	U
SW8270DSIM	Fluoranthene	ug/l	50				0.044	J	0.051	J
SW8270DSIM	Fluorene	ug/l	50				0.051	U	0.052	U
SW8270DSIM	Indeno(1,2,3-C,D)Pyrene	ug/l	0.002				0.051	U	0.052	U
SW8270DSIM	Naphthalene	ug/l	10				0.12	J	0.052	U
SW8270DSIM	Phenanthrene	ug/l	50				0.18	J	0.052	U
SW8270DSIM	Pyrene	ug/l	50				0.048	J	0.039	J
SW9060	Total Organic Carbon	mg/l			4.8				9.2	

Contractor: Nature's Way Driller: Steve Gingrich and Brett Landsman Oversight: Megan Clark Rig Type: Hollow Stem Auger						PARSONS DRILLING RECORD		BORING/ Page 1 of 2 WELL NO. MW-04 Location Description: On toe of landfill on NE side of site	
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: -- ft bls Measured Water Level: 3.35 ft bls Total Depth of Well: 35 ft bls Additional Comments:						Date/Time Start: 6/11/18 @ 08:30 Date/Time Finish: 6/11/18 @ 12:00			
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
					1	Dry-moist, brown, SILT and fine SAND, some organic material/roots.			
SS	2-3-5-7	5%	2.0	ML	2	2-2.5': SAA			
				ML	3	2.5-4': Moist, soft, brown CLAY and SILT, little medium to coarse Sand and fine Gravel.			
SS	1-2-3-3	60%	0.5	CL	4				
					5	Moist-wet, medium dense, brown, SILT and fine SAND, little Clay and medium to coarse Sand, trace fine Gravel.			
SS	5-7-7-4	50%	0.4	ML	6				
					7	Wet, medium dense, orange-brown, SILT and fine SAND, some medium Sand, little fine Gravel.			
SS	3-5-13-15	60%	0.7	ML	8				
				SM	9	8-9': Wet, loose, brown-orange, medium to coarse SAND, little silt.			
SS	2-6-16-22	40%	0.3	SM	10	9-10': Moist, dense, brown, fine SAND, some Silt, little fine Gravel, trace coarse Gravel.			
					11	Moist, SAA			
SS	12-30-39-39	60%	0.7	SM	12				
				SM	13	12-12.5': SAA			
SS	39-49-50/5	60%	1.4	SM	14	12.5-14': Dry, very dense, brownish red fine SAND, some Silt and medium to coarse Sand, little fine to coarse Gravel.			
					15	Dry, reddish brown, SILT, little fine Gravel, trace clay.			
SS	7-30-38-50/	60%	1.5	ML	16				
					17	SAA plus little fine to coarse Gravel. Moist medium sand in bottom 2".			
SS	19-30	60%	0.5	ML	18				
					19	Moist, brown, SILT and fine Sand, some fine to coarse Gravel, little medium to coarse Sand.			
SS	26-49-50/4	60%	0.4		20				
					21				
SAMPLING METHOD HC = Hand Cleared (post hole) SS= Split Spoon						COMMENTS: Monitoring well constructed using 20' of 2" diameter SCH 40 0.010 slotted PVC screen, 18.5 of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.			

Contractor: Nature's Way Driller: Steve Gingrich and Brett Landsman Oversight: Megan Clark Rig Type: Hollow Stem Auger						PARSONS DRILLING RECORD		BORING/ WELL NO. <u>MW-04 (cont.)</u>																																																																																																																																																																										
PROJECT NAME: NYSDEC ILI - Palmyra Landfill PROJECT Location: Palmyra, NY						Location Description: On toe of landfill on NE side of site																																																																																																																																																																												
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SAMPLING METHOD HC = Hand Cleared (post hole) SS= Split Spoon						COMMENTS: Boring was drilled to 37', but formation slumped, making boring depth ~36' bls. Monitoring well constructed using 20' of 2" diameter SCH 40 0.010 slotted PVC screen, 18.5 of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.																																																																																																																																																																												

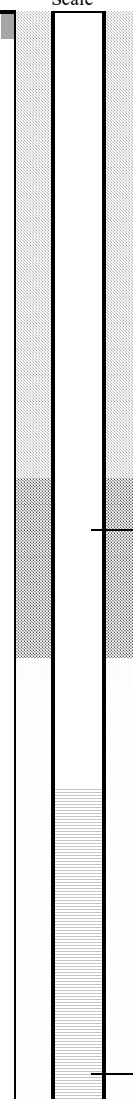
Contractor: Nature's Way Driller: Steve Gingrich and Brett Landsman Oversight: Megan Clark Rig Type: Hollow Stem Auger						PARSONS DRILLING RECORD		BORING/ WELL NO. 1 of 2 MW-05 Location Description: On toe of landfill on E side of site	
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: 15.5 ft bls Measured Water Level: 6.41 ft bls Total Depth of Well: 24 ft bls Additional Comments:						PROJECT NAME: NYSDEC ILI - Palmyra Landfill PROJECT Location: Palmyra, NY			
Date/Time Start: 6/8/18 @ 08:45 Date/Time Finish: 6/8/18 @ 11:00									
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
					1	Moist, brown - black, SILT, some fine Sand and organics, little Clay			Concrete pad
SS	1-0-1-5	60%	1.2	ML	2				Grout (0-6' bls)
					3	Moist, soft, brown, CLAY, some Silt, little fine Sand and fine Gravel			
SS	1-1-2-3	70%	0.6	CL	4				
					5	4-5': SAA			
SS	4-5-8-9	80%	0.2	SM	6	5-6': Moist, medium dense, brown, SILT and fine SAND, little fine Gravel, waste (plastic), and organics, trace Clay			
					7	Moist, brown, SILT, little fine Sand, fine Gravel, and Clay			Bentonite (6-11' bls)
SS	4-12-19-27	70%	0.4	ML	8				PVC Riser (-2.5-14' bls)
					9	Dry, medium dense, reddish brown, SILT and fine SAND, little rounded to sub rounded fine Gravel			
SS	17-19-21-21	100%	0.5	SM	10				
					11	Dry, medium dense, reddish brown, SILT and fine SAND, some fine to coarse Gravel			"00N" Choke Sand (11-12' bls)
SS	13-15-15-17	70%	0.5	SM	12				
					13	Dry, dense, reddish brown, fine SAND, some Silt and fine to coarse Gravel, trace medium to coarse Sand.			"0" Filter Sand (12-25' bls)
SS	21-19-18-10	80%	0.9	SM	14				
					15	14-14.5': SAA			
SS	2-4-3-4	75%	1.4	SM	16	14.5-16': Wet, loose, gray, fine SAND, some Silt and fine to coarse Gravel, little Clay, trace medium to coarse Sand			
					17	Moist - wet, SILT and fine SAND, little fine to coarse Gravel, Clay and weathered rock. Wet in bottom 4"			
SS	15-15-5-6	75%	0.9	SM	18				
					19	18-19.5': Wet, medium dense, gray, fine to medium SAND, little Silt and crushed rock			PVC Screen (14-24' bls)
SS	7-8-22-60/2	80%	2.9	ML	20	19.5-20': Dry, gray, SILT, little fine Sand			
					21	Dry, gray - black, SILT, little fine to medium Sand			
SAMPLING METHOD HC = Hand Cleared (post hole) SS= Split Spoon						COMMENTS: Monitoring well constructed using 10' of 2" diameter SCH 40 0.010 slotted PVC screen, 16.5' of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.			

[illegible]

Contractor: Nature's Way						PARSONS		BORING/ WELL NO. MW-06		Page 1 of 2	
Driller: Steve Gingrich and Brett Landsman						DRILLING RECORD		Location Description:			
Oversight: Megan Clark						PROJECT NAME: NYSDEC ILI - Palmyra Landfill		On toe of landfill on E side of site			
Rig Type: Hollow Stem Auger						PROJECT Location: Palmyra, NY					
GROUNDWATER OBSERVATIONS						Date/Time Start: 6/7/18 @ 09:10 Date/Time Finish: 6/6/18 @ 11:20					
Apparent Borehole DTW:		14 ft bls									
Measured Water Level:		6.54 ft bls									
Total Depth of Well:		22 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	
					1	Moist, very loose, brown, SILT and fine SAND, little medium Sand and organics, trace Clay				Concrete pad	
SS	2-1-1	30%	0.3	SM	2					Grout (0-4' bls)	
					3	Moist, soft, olive gray - black, CLAY and SILT, little fine Sand and organics					
SS	1-1-2-2	50%	0.2	OL	4						
					5	Moist, medium dense, brown, SILT and fine SAND, some Clay					
SS	4-6-9-9	70%	0.2	SM	6					Bentonite (4-9' bls)	
					7	Dry, medium dense, brown, SILT and fine SAND, trace fine Gravel					
SS	5-9-9-14	75%	0.4	SM	8						
					9	8-9': Dry, medium dense, brown - reddish brown, SILT and fine SAND, little fine Gravel					
SS	9-9-18-16	80%	0.2	SM	10	9-10': Dry, medium dense, brown - reddish brown, SILT and fine SAND, some fine to coarse Gravel				"00N" Choke Sand (9-10' bls)	
					11	SAA. Resampled due to extremely low recovery; still returned low recovery				PVC Riser (-2.5-12' bls)	
SS	10-24-27-15	<5%	0.2	SM	12						
					13	Moist, soft, brown to reddish brown, fine SAND, some Silt and medium to coarse Sand, little fine Gravel and Clay					
SS	3-6-6-7	75%	0.2	SM	14					"0" Filter Sand (10-22' bls)	
					15	Wet, very loose, olive gray - brown, fine SAND and SILT, some Clay, little medium to coarse Sand and fine Gravel					
SS	1-2-3	75%	0.2	SM	16						
					17	Wet, medium dense, olive gray, fine SAND and SILT, some crushed Boulders, little Clay and medium Sand, trace fine Gravel					
SS	5-8-4-11	75%	0.3	SM	18						
					19	Wet, olive gray - light gray SILT and crushed weathered rock, some Clay				PVC Screen (12-22' bls)	
SS	5-17-17-4	60%	0.3	ML	20						
					21						
SAMPLING METHOD HC = Hand Cleared (post hole) SS= Split Spoon						COMMENTS: Monitoring well constructed using 10' of 2" diameter SCH 40 0.010 slotted PVC screen, 14.5' of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.					

[illegible]

Contractor: Nature's Way Driller: Steve Gingrich and Brett Landsman Oversight: Megan Clark Rig Type: Hollow Stem Auger						PARSONS DRILLING RECORD		BORING/ Page 1 of 1 WELL NO. MW-07 Location Description: On toe of landfill slope in SE portion of site	
PROJECT NAME: NYSDEC ILI - Palmyra Landfill PROJECT Location: Palmyra, NY									
GROUNDWATER OBSERVATIONS									
Apparent Borehole DTW:		8.5	ft bls	Date/Time Start: 6/6/18 @ 12:20 Date/Time Finish: 6/6/18 @ 14:45					
Measured Water Level:		8.5	ft bls						
Total Depth of Well:		16	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
					1	Dry, brown to light brown, SILT, some Clay, fine Sand, fine to coarse Gravel			Concrete pad Grout (0-2' bls)
SS	2-4-6-2	30%	0.4	ML	2				
					3	Moist, soft, brown CLAY, some Silt, little fine Sand and fine to coarse Gravel			
SS	1-2-2-2	25%	0.4	CL	4	0.5" layer of medium to coarse Sand and waste (plastic bags and wood)			Bentonite (2-4.5' bls)
					5	Moist, very loose, brown, fine SAND and SILT, some Clay, little coarse Sand and fine to coarse Gravel			"00N" Choke Sand (4.5-5' bls)
SS	2-1-2-12	50%	0.1	SM	6				
					7	Moist, medium dense, light brown, fine SAND and SILT, little fine to coarse Gravel			
SS	9-16-19-17	75%	0.1	SM	8	7.5' 0.5" layer of fine to medium Sand			
				SM	9	8-9.5': Wet, brown, loose, SAND, little Silt and fine Gravel			
SS	5-10-16-22	70%	0.1	ML	10	9.5'-10': Dry, very stiff, brown SILT and CLAY, some fine Sand			
				SM	11	10'-11.5': Wet, brown, fine SAND and SILT, little fine to coarse Gravel			"0" Filter Sand (5-17' bls)
SS	28-50-50/4	70%	0.1	SM	12	11.5'-12': Dry, brown, fine SAND and SILT, some fine to coarse Gravel			
					13	12-13.5': Moist to wet. Brown to black, medium SAND, some fine Sand and fine to coarse Gravel. Wet at 13'.			
SS	7-32-6/4	50%	0.3	ML	14	13.5-14': Moist, SILT, little gravel. Rock fragments in nose.			
					15	Moist, hard, reddish brown, SILT and CLAY, little fine to medium Sand and fine to coarse Gravel			PVC Screen (6-16' bls)
SS	51-50/3	30%	0.1	ML/CL	16				
SS	23-41	30%	0.2	ML	17	Moist, reddish brown, SILT, little fine Gravel and Sand			
SAMPLING METHOD HC = Hand Cleared (post hole) SS= Split Spoon						COMMENTS: Monitoring well constructed using 10' of 2" diameter SCH 40 0.010 slotted PVC screen, 8.5' of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.			

Contractor: Nature's Way						PARSONS		BORING/ Page 1 of 2	
Driller: Steve Gingrich and Brett Landsman						DRILLING RECORD		WELL NO. MW-08	
Oversight: Megan Clark						PROJECT NAME: NYSDEC ILI - Palmyra Landfill		Location Description:	
Rig Type: Hollow Stem Auger						PROJECT Location: Palmyra, NY		On SE slope of landfill.	
GROUNDWATER OBSERVATIONS						Date/Time Start: 6/4/18 @ 12:45 Date/Time Finish: 6/5/18 @ 13:45			
Apparent Borehole DTW:		20.5	ft bls						
Measured Water Level:		24.21	ft bls						
Total Depth of Well:		26	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
					1	Dry, dark brown, WASTE containing metal, plastic, paper, some Silt, little coarse Gravel			Concrete pad
SS	2-3-3-2	30%	0.4		2				
					3	SAA			
SS	9-11-12-11	<5%	N/A		4				Grout (0-9' bls)
					5	SAA			
SS	7-3-2-5	20%	0.6		6				
					7	SAA plus brick			
SS	4-1-H-H	<5%	N/A		8				
					9	Moist, very soft, light gray, CLAY and fine SAND, little Silt and crushed rock			
SS	1-1-1-1	10%	0.6	CL	10				PVC Riser (-2.5 - 15' bls)
					11	SAA			Bentonite (9-12.5' bls)
SS	1-2-1-2	<5%	0.5	CL	12				"00N" Choke Sand (12.5-13' bls)
					13	Moist, very soft, light gray to olive gray, CLAY, little fine Sand, little waste			
SS	1-1-2-2	10%	0.2	CL	14				
					15	Top 3": Wet, soft, light gray to olive gray, CLAY, little fine Sand Bottom 2": Moist, medium dense, fine SAND, some fine to coarse Gravel			
SS	1-4-12-12	10%	0.3	SP	16				
					17	Dry, brown, SILT, some fine to coarse Sand and crushed rock			
SS	18-22-17-27	80%	0.4	ML	18				
					19	SAA			"0" Filter Sand (13-26' bls)
SS	6-22-51-50	85%	0.5	ML	20				PVC Screen (15-25' bls)
					21				
SAMPLING METHOD HC = Hand Cleared (post hole) <u>SS= Split Spoon</u>						COMMENTS: Monitoring well constructed using 10' of 2" diameter SCH 40 0.010 slotted PVC screen, 17.5' of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.			

Contractor: Nature's Way Driller: Steve Gingrich and Brett Landsman Oversight: Megan Clark Rig Type: Hollow Stem Auger						PARSONS DRILLING RECORD		BORING/ WELL NO. <u>MW-08 (cont.)</u> Page <u>2</u> of <u>2</u>	
PROJECT NAME: NYSDEC ILI - Palmyra Landfill PROJECT Location: Palmyra, NY						Location Description: On SE slope of landfill.			
GROUNDWATER OBSERVATIONS Apparent Borehole DTW: 20.5 ft bls Measured Water Level: 24.21 ft bls Total Depth of Well: 26 ft bls Additional Comments:						Date/Time Start: 6/4/18 @ 12:45 Date/Time Finish: 6/5/18 @ 13:45			
Sample Type	SPT	Recovery (%)	PID (PPM)	USCS Symbol	Depth (ft bls)	FIELD IDENTIFICATION OF MATERIAL		SCHEMATIC Drawing Not to Scale	COMMENTS
SS	49-50/3	30%	1.2	ML	22	Wet, brown, SILT and fine SAND, little fine to coarse Gravel			
					23	Moist, brown, SILT, some fine Sand and Clay, little crushed rock, trace fine Gravel			
SS	46-50/5	30%	1.0	ML	24				
					25	Moist, brown, SILT and fine SAND, little fine Gravel, trace Clay			
SS	29-37-32-19	75%	0.9	ML	26				
					27	Moist, hard, greenish - gray SILT and CLAY, trace crushed rock			
SS	9-32-50/2	50%	0.9	ML	28				
					29	Moist, light gray, SILT, some Clay			
SS	100/4	10%	N/A	ML	30				
					31	SAA			
SS	60-50/1	10%	N/A	ML	32				
SS	50/3	10%	N/A	ML	33	SAA			
SAMPLING METHOD HC = Hand Cleared (post hole) SS= Split Spoon						COMMENTS: Monitoring well constructed using 10' of 2" diameter SCH 40 0.010 slotted PVC screen, 17.5' of 2" diameter SCH 40 PVC riser, "0" grain size filter sand, "00N" grain size choke sand, bentonite, grout composed of cement and bentonite mix, and a 3' stick-up pro casing.			

WELL DEVELOPMENT LOG

Well ID: MW-X mc

Date: 6/14/18 Field Personnel: M. Clark Weather: 60s Sunny
 Site Name: Palmyra landfill Contractor: Nature's Way Project No.: 4500190900
 Site Location: Palmyra, NY Evacuation Method: Water

Well information:

Depth to Bottom (Initial)* 37.52 ft. Date(s) Installed 6/11/18 Date(s) Developed 6/14/18
 Depth to Bottom (Final)* 37.53 ft. Driller _____ Development Time Start: 0930
 Depth to Water (Initial)* 3.35 ft. Well Diameter 2 in. Stop: 1340
 Depth to Water (Final)* 7.28 ft. Casing Volume 6.00 gal. Total: _____

* Measuring point

TUC

Pump setting*
(intake)

well
volume =
5.47 gal

Well Volumes	Volume of Water Removed (Gallons)	Temperature °C	pH s.u	Conductivity mS/cm	Turbidity (NTU)	Approximate Flow Rate (gal/min)	Depth to Water (ft.)	Appearance of Water
Start	0	12.50	8.17	1.17	1000	1	3.35	milky
1.0	6	11.53	8.25	1.32	675	1	8.38	milky
3.7	20	10.83	8.06	1.34	1000	1	9.75	milky
5.3	29	11.30	8.07	1.30	1000	1	10.78	milky
6.8	37	10.85	7.94	1.31	1000	1	11.35	milky
8.4	46	10.67	7.78	1.26	1000	10.6	9.98	cloudy
9.7	53	10.77	7.84	1.31	915	0.6	9.59	cloudy
11.2	61	11.21	7.75	1.31	599	0.6	9.53	cloudy
13.5	74	11.52	7.92	1.22	602	0.6	9.60	cloudy
15.4	84	11.93	7.98	1.29	539	0.6	9.70	cloudy
17.4	95	11.57	7.87	1.31	410	0.6	9.90	cloudy
18.3	100	12.55	7.94	1.27	362	0.6	9.34	cloudy
19.0	104	13.41	7.86	1.23	316	0.26	8.43	cloudy
19.4	106	13.00	8.13	1.26	259	0.26	8.32	cloudy
20.5	112	12.60	8.11	1.26	191	0.26	8.03	cloudy
21.2	116	12.14	8.01	1.29	147	0.26	7.95	clearing up
21.9	120	12.79	8.02	1.29	129	0.26	7.89	clearing up
22.7	124	13.29	7.95	1.27	116	0.26	7.80	clearing up
23.4	128	13.28	7.40	1.26	110	0.26	7.28	clearing up

Turning flow rate down

Turning flow rate down

Development Water Characteristics:

Total volume of Development water removed: 128

Physical appearance at start

Color milky

Odor none

Sheen/Free Product none

Physical appearance at end

Color clear-cloudy

Odor none

Sheen/Free Product none

NOTES:

Turbidity stabilized in low 100s after 120+ gallons removed. Pumping ended.

Geologist Signature: [Signature]

Well ID: MW-2

Weather 80s, sunny '05
Project No. 450619.09000

Date(s) Developed 6/12/18
Development Time Start: 9:39
Stop: 12:35
well volume Total:

Pump setting* _____
(intake)

Development Water Characteristics:

Physical appearance at end

Color	<u>mostly clear</u>
Odor	<u>none</u>
Sheen/Free Product	<u>none</u>

Geologist Signature:

WELL DEVELOPMENT LOG

Well ID: MW-3106

Date: 6/12/18 Field Personnel: M. Clark Weather: 80s, sunny
 Site Name: Palmyra LF Contractor: Nature's Way Project No: 450619.09000
 Site Location: Palmyra, NY Evacuation Method: Water

Well information: 24.86
 Depth to Bottom (Initial)* 26.60 ft. Date(s) Installed: 6/17/18 Date(s) Developed: 6/12/18
 Depth to Bottom (Final)* 25.12 ft. Driller: Nature's Way Development Time: Start: 9:50
 Depth to Water (Initial)* 4.69 - 6.20 Well Diameter: 2 in. Stop: 15:15
 Depth to Water (Final)* 7.25 ft. Casing Volume: 4.25 gal. Well Volume: 3191
 * Measuring point: 1.5" from bottom Pump setting* (intake) 2.49

Well Volumes	Volume of Water Removed (Gallons)	Temperature °C	pH s.u	Conductivity mS/cm	Turbidity (NTU)	Approximate Flow Rate (gal/min)	Depth to Water (ft.)	Appearance of Water
Start	0	14.0	7.08	2.04	800	0.4	7.11	milky
1.7	5	14.05	7.20	0.854	364	0.4	7.25	cloudy
3.7	11	12.90	7.25	0.696	580	0.4	7.20	cloudy
5.4	16	12.21	7.22	0.53	709	0.4	7.28	cloudy
7.4	22	13.41	7.39	1.60	176	0.4	7.31	cloudy
9.0	22	13.15	7.13	1.11	800	0.4	7.28	cloudy
10.7	27	13.44	7.24	1.48	800	0.5	7.28	milky
14.0	32	13.80	7.19	1.43	800	0.4	7.32	cloudy
16.1	42	13.02	7.86	1.43	536	0.3	7.80	cloudy
17.4	48	12.73	7.34	1.45	287	0.3	7.32	cloudy
18.7	52	13.04	7.34	1.46	282	0.3	7.37	clear-ish
20.1	56	13.55	7.42	1.30	162	0.3	7.35	clear-ish
21.4	60	13.37	7.42	1.36	130	0.3	7.35	clearish
22.7	64	13.2	7.39	0.996	119	0.3	7.35	clearish
23.7	68	12.62	7.32	1.42	93.1	0.3	7.35	clearish
25.4	71	12.54	7.33	1.43	46.5	0.3	7.35	clearish
26.8	76	13.21	7.36	1.41	83.1	0.3	7.35	clearish
28.8	80	13.22	7.88	1.40	81.7	0.3	7.35	clearish
↓	86	12.71	7.57	1.42	79.5	0.3	7.35	clearish

Development Water Characteristics:
 Total volume of Development water removed: 106 gal
 Physical appearance at start: Color: milky, Odor: none, Sheen/Free Product: none
 Physical appearance at end: Color: mostly clear, Odor: none, Sheen/Free Product: none

NOTES:

 Geologist Signature: [Signature]

Well ID: MW-1
(cont)

Weather _____
Project No. 450619.09000

MW-3 - continued -

* Measuring point _____ Pump setting* _____
(intake)

rate increased from
OTW

Total volume of Development water removed: 106 gal

Physical appearance at end

Color

Odor _____

Sheen/Free Product

Geologist Signature:

Geologist Signature:

* Turbidity never decreased below 50 NTU End of day, had to stop.

WELL DEVELOPMENT LOG

Well ID: MW-07

07

Date 6/12/18 Field Personnel m. Clark Weather 70's, cloudy/rainy
 Site Name Palmyra LF Contractor Natures Way Project No. 450619.09000
 Site Location Palmyra, NY Evacuation Method Weather

Well information:

Depth to Bottom (Initial)* 18.31 ft. Date(s) Installed 17.4 hrs Day 2 measurements Date(s) Developed 6/12 - 6/13
 Depth to Bottom (Final)* 8.61 ft. Driller Natures Way Development Time Start: 1325 - 1430
 Depth to Water (Initial)* 8.61 ft. Well Diameter 2 in. Stop: 0855
 Depth to Water (Final)* 8.61 ft. Casing Volume 2.93 gal. well volume = 1.55 Total: 1940
 * Measuring point TOC Pump setting* 11.6

Well Volumes	Volume of Water Removed (Gallons)	Temperature °C	pH s.u.	Conductivity mS/cm	Turbidity (NTU)	Approximate Flow Rate (gal/min)	Depth to Water (ft.)	Appearance of Water
Start	0.3	14.29	6.76	2.08	800	0.25	9.50	milky
15.2	8	14.30	6.96	2.18	800	0.25	8.61	milky
10.3	16	13.00	7.56	2.22	800	0.25	9.51	milky
16.8	28	12.34	7.06	2.24	800	0.4	9.72	cloudy
20.6	32	12.82	7.62	2.24	793	0.4	9.95	cloudy
28.9	37	12.26	7.42	2.26	446	0.4	9.56	cloudy
25.2	42	12.15	7.73	2.20	276	0.4	9.56	cloudy
28.4	44	12.98	7.71	2.20	208	0.4	9.52	cloudy
~~32.3~~	~~50~~	~~12.84~~	~~7.71~~	~~2.20~~				
32.3	50	12.84	7.58	1.72	195	0.4	9.95	cloudy
38.7	60	13.39	7.61	2.19	113	0.4	9.95	cloudy
41.3	64	12.75	7.54	2.23	100	0.4	9.97	cloudy
46.5	72	12.84	7.47	2.25	73.1	0.4	9.95	clearish
51.6	80	13.04	7.38	2.20	90.0	0.4	9.95	clearish
54.2	84	13.63	7.44	2.19	142	0.4	9.95	clearish
61.9	96	15.45	7.56	2.20	293	0.4	9.00	clearish
63.2	98	17.01	7.69	2.17	181	0.13	9.00	clear

Development Water Characteristics:

Total volume of Development water removed: 98 gallons

Physical appearance at start

Color milkyOdor noneSheen/Free Product none

Physical appearance at end

Color clearishOdor noneSheen/Free Product none

NOTES:

Turbidity not going below 50 NTU. George M. (Pawson) approves stopping

Geologist Signature: W. S. E.

Well ID: *mw-1*

Weather 70s, cloudy/rain
Project No. 450619.09000

Depth to Bottom (Initial) *	<u>27.74</u>	ft.	Date(s) Installed	<u>6/14/18 - 6/15/18</u>	Date(s) Developed	<u>6/13/18 - 6/14/18</u>
Depth to Bottom (Final) *		ft.	Driller	<u>Watkins Way</u>	Development Time	Start: <u>8:45 - 9</u>
Depth to Water (Initial) *	<u>16.30</u>	ft.	Well Diameter	<u>2</u> in.		Stop: <u>12:25 - 12:30</u>
Depth to Water (Final) *		ft.	Casing Volume	<u>4.44</u> gal.	<u>well volume = 1.83</u>	Total: <u>0.000</u>
* Measuring point	<u>TOC</u>		Pump setting* (intake)	<u>.</u>		

[illegible]

18 gal

Physical appearance at end

Color	cloudy
Odor	none
Product	none

DRY @ 12 min of ~29 gal/min - Allowing to recharge to ~18.6'
 0930 = DTW = 20.98' 1010 = 20.40' ~~1045~~ 1045 = 19.76, 1115 = 19.30'
 18.47 @ 1210 - Restart @ 1215
 DRY @ 1255 - need to wait for recharge to 17'
 DTW: 1350 = 25.08' 1430 = 24.33'
 1430 on 6/14 DTW = 15.24' Geologist Signature:

Geologist Signature:

* Well development complete after drying up 3 times

Date	7-Dec	Personnel	KG, DC, CF	Weather	33 degrees, snowy
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-01
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Depth of Well	25.16 ft.	*Measurements taken from:
Depth to Water	9.73 ft.	
H _{wc}	15.43 ft.	
Depth to Intake	24.66 ft.	

[illegible]

Water Sample		
Time Collected:	<u>1120</u>	<u>8,100mL</u> (gallons)
Physical appearance at start:		
color	<u>Light brown</u>	<u>clear</u>
odor	<u>none</u>	<u>none</u>
sheen/ free product	<u>none</u>	<u>none</u>

Dissolved ferrous iron: n/a
Dissolved total iron: n/a

Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/BrO/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

Date	7-Dec	Personnel	KG, DC, CF	Weather	33 degrees, snowy
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-02
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Depth of Well	20.02 ft.	*Measurements taken from:
Depth to Water	11.99 ft.	
H _{wc}	8.03 ft.	
Depth to Intake	19.52 ft.	

[illegible]

Water Sample	
Time Collected: <u>1000</u>	<u>115000mL</u> (gallons)
Physical appearance at start:	
color <u>slight turbidity</u>	<u>clear</u>
odor <u>none</u>	<u>none</u>
sheen/ free product <u>none</u>	<u>none</u>

Dissolved ferrous iron: n/a
Dissolved total iron: n/a

Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/BrO/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

Low Flow Ground Water Sampling Log

Date	7-Dec	Personnel	KG, DC, CF	Weather	33 degrees, snowy
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-03
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Well information:

Depth of Well	20 ft.
Depth to Water	9.02 ft.
H_{wc}	10.98 ft.
Depth to Intake	19.5 ft.

*Measurements taken from:

	Top of Well Casing
	Top of Protective Casing
	(Other, Specify)

Start Purge Time: 1210

[illegible]

End Purge Time: 1250

Water Sample

Time Collected:	<u>1300</u>	<u>8,800mL</u>	(gallons)
Physical appearance at start:			
	color <u>slight turbidity</u>	<u>clear</u>	
	odor <u>none</u>	<u>none</u>	
	sheen/ free product <u>none</u>	<u>none</u>	

Field Test Results:

Dissolved ferrous iron: n/a

Dissolved total iron: n/a

Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/BrO/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

Low Flow Ground Water Sampling Log								
Date	10-Jul	Personnel	MC, JC	Weather	80s, Partly Cloudy			
Site Name	Palmyra LF	Evacuation Method	Bladder Pump	Well #	MW-04			
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000			
Well information:								
Depth of Well	37.57 ft.	*Measurements taken from:						
Depth to Water	4.75 ft.	Top of Well Casing						
H _{wc}	32.82 ft.	Top of Protective Casing						
Depth to Intake	35.57 ft.	(Other, Specify)						
Start Purge Time: 11:20								
		10%	0.1	3%	10 mV	10%	10%	100 - 500 mL/min
Elapsed Time (min)	Depth to Water (ft)	Temperature (celsius)	pH	Conductivity (ms/cm)	Oxidation Reduction Potential	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)
5	4.5	13.3	7.34	0.937	-38	0	1000+	160
10	4.65	12.7	7.24	0.948	-39	0	1000+	160
15	4.71	11.99	7.16	0.991	-35	0	1000+	160
20	4.79	11.95	7.12	1.02	-31	0	1000+	160
25	4.81	12.01	7.09	1.03	-28	0	875	160
30	4.85	11.85	7.06	1.05	-25	0	666	160
35	4.95	11.98	7.04	1.06	-23	0	484	160
40	5	12.05	7.03	1.06	-23	0	377	160
45	5.03	11.97	7.03	1.05	-24	0	309	160
50	5.05	11.96	7.03	1.05	-25	0	245	160
55	5.09	12.01	7.03	1.05	-26	0	183	160
60	5.11	12.04	7.02	1.05	-26	0	150	160
65	5.12	12.01	7.02	1.06	-26	0	112	160
70	5.15	11.89	7.02	1.06	-26	0	75.4	160
75	5.15	12.02	7.02	1.07	-26	0	68.7	160
80	5.2	12	7.02	1.07	-27	0	59.5	160
85	5.22	12.01	7.02	1.07	-26	0	51.8	160
90	5.23	12.04	7.01	1.07	-27	0	50.5	160
95	5.21	12.12	7.01	1.07	-26	0	46.5	160
End Purge Time: 12:55								
Note: MS/MSD collected at this location								
Water Sample								
Time Collected:	12:00	Total volume of purged water removed: 4 (gallons)						
Physical appearance at start:		Physical appearance at start:						
Color White, cloudy		Color Clear						
Odor None		Odor None						
Sheen/Free Product None		Sheen/Free Product None						
Field Test Results:								
Dissolved ferrous iron: n/a								
Dissolved total iron: n/a								
Dissolved total manganese: n/a								
Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH			
Alkalinity	250 mL Plastic	3	no	none	-			
Ammonia	60 mL Glass	3	no	H2SO4	-			
PAHs + 1,4-Dioxane	1 L Amber	6	no	none	-			
Chl/Tds/BrO/SO4	950 mL Plastic	3	no	none	-			
COD	250 mL Plastic	3	no	H2SO4	-			
TOC	60 mL Glass	3	no	HCl	-			
VOCs	40 mL Glass	9	no	HCl	-			
Mod. Bsln Metals / Hardness	500 mL Plastic	3	no	HNO3	-			
PFAS	125mL Plastic	8	no	none	-			

Low Flow Ground Water Sampling Log					
Date	10-Jul	Personnel	MC, JC	Weather	80s, Partly Cloudy
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-05
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Depth of Well	26.56 ft.
Depth to Water	7.27 ft.
H_{wc}	19.29 ft.
Depth to Intake	24.56 ft.



Top of Well Casing
Top of Protective Casing
(Other, Specify)

[illegible]

Note: Duplicate sample collected at this location.

Time Collected: 9:45
Physical appearance at start:

Total volume of purged water removed: 3.5 (gallons)

Physical appearance at start:

Color Clear

Color Clear

Odor Sulfur

Odor Slight sulfur

Sheen/Free Product None

Sheen/Free Product None

Dissolved ferrous iron: n/a
Dissolved total iron: n/a
Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/Bro/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

Low Flow Ground Water Sampling Log					
Date	9-Jul	Personnel	MC, JC	Weather	80s, Sunny
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-06
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Depth of Well	24.91 ft.	*Measurements taken from:
Depth to Water	7.09 ft.	
H _{wc}	17.82 ft.	
Depth to Intake	22.91 ft.	

Start Purge Time: 14:25

[illegible]

End Purge Time: 15:00

Water Sample			
Time Collected:	<u>15:00</u>	Total volume of purged water removed:	<u>3</u> (gallons)
Physical appearance at start:		Physical appearance at start:	
Color	<u>White, cloudy</u>	Color	<u>Cloudy</u>
Odor	<u>Sulfur</u>	Odor	<u>None</u>
Sheen/Free Product	<u>None</u>	Sheen/Free Product	<u>None</u>

Dissolved ferrous iron: n/a

Dissolved total iron: n/a

Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/Bro/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

Low Flow Ground Water Sampling Log					
Date	9-Jul	Personnel	MC, JC	Weather	80s, Sunny
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-07
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Depth of Well	18.49 ft.	*Measurements taken from:
Depth to Water	9.19 ft.	
H _{wc}	9.3 ft.	
Depth to Intake	16.49 ft.	

Start Purge Time: 12:25

[illegible]

End Purge Time: 13:15

Water Sample			
Time Collected:	<u>13:00</u>	Total volume of purged water removed:	<u>2.75</u> (gallons)
Physical appearance at start:		Physical appearance at start:	
	Color <u>Clear</u>		Color <u>Clear</u>
	Odor <u>Sulfur</u>		Odor <u>None</u>
Sheen/Free Product	<u>None</u>	Sheen/Free Product	<u>Slight sheen</u>

Dissolved ferrous iron: n/a
Dissolved total iron: n/a
Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/Bro/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

Low Flow Ground Water Sampling Log					
Date	9-Jul	Personnel	MC, JC	Weather	80s, Sunny
Site Name	Palmyra LF	Evacuation Method	Peristaltic Pump	Well #	MW-08
Site Location	Palmyra, NY	Sampling Method	Low Flow	Project #	450619.09000

Depth of Well	27.7 ft.	*Measurements taken from:
Depth to Water	15.64 ft.	
H _{wc}	12.06 ft.	
Depth to Intake	25.7 ft.	

[illegible]

End Purge Time: 10:15

Time Collected: <u>10:30</u>	Total volume of purged water removed: <u>3.5</u> (gallons)
Physical appearance at start:	Physical appearance at start:
Color <u>Clear</u>	Color <u>Clear</u>
Odor <u>None</u>	Odor <u>None</u>
Sheen/Free Product <u>None</u>	Sheen/Free Product <u>None</u>

Dissolved ferrous iron: n/a

Dissolved total iron: n/a

Dissolved total manganese: n/a

Sample	Container Type	# Collected	Field Filtered	Preservative	Container pH
Alkalinity	250 mL Plastic	1	no	none	-
Ammonia	60 mL Glass	1	no	H2SO4	-
PAHs + 1,4-Dioxane	1 L Amber	2	no	none	-
Chl/Tds/Bro/SO4	950 mL Plastic	1	no	none	-
COD	250 mL Plastic	1	no	H2SO4	-
TOC	60 mL Glass	1	no	HCl	-
VOCs	40 mL Glass	3	no	HCl	-
Mod. Bsln Metals / Hardness	500 mL Plastic	1	no	HNO3	-
PFAS	125mL Plastic	4	no	none	-

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-128629-1

Client Project/Site: Palmyra LF

For:

Parsons Corporation

301 Plainfield Road

Suite 350

Syracuse, New York 13212

Attn: Sara Weishaupt



Authorized for release by:

12/22/2017 4:38:09 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Job ID: 480-128629-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-128629-1

Receipt

The samples were received on 12/7/2017 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.4° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-392196 recovered outside acceptance criteria, low biased, for Vinyl chloride and Chloromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for these analytes, the data have been reported. The following samples are impacted: 8-WAY-001-001-01 (480-128629-1), 8-WAY-001-001-02 (480-128629-2), 8-WAY-001-001-03 (480-128629-3) and 8-WAY-001-001-06 (480-128629-6).

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

GC/MS Semi VOA

Method(s) 8270D SIM: The continuing calibration verification (CCV) associated with batch 460-483751 recovered above the upper control limit for Fluoranthene and Benzo[k]fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

HPLC/IC

Method(s) 300.0: The following samples was reported with elevated reporting limits for all analytes: 8-WAY-001-001-01 (480-128629-1), 8-WAY-001-001-02 (480-128629-2) and 8-WAY-001-001-03 (480-128629-3). The sample was analyzed at a dilution based on screening results.

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

Metals

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

LCMS

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

General Chemistry

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

Organic Prep

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

Detection Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-01

Lab Sample ID: 480-128629-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.96	J	1.9	0.56	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.78	J	1.9	0.24	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.6	J	1.9	0.81	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.33	J	1.9	0.26	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.67	J	1.9	0.19	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	1.9	0.16	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.67	J	1.9	0.52	ng/L	1			537 (modified)	Total/NA
Barium	0.060		0.0020	0.00070	mg/L	1			6010C	Total/NA
Boron	0.015	J	0.020	0.0040	mg/L	1			6010C	Total/NA
Calcium	91.8		0.50	0.10	mg/L	1			6010C	Total/NA
Magnesium	22.3		0.20	0.043	mg/L	1			6010C	Total/NA
Manganese	0.0036	B	0.0030	0.00040	mg/L	1			6010C	Total/NA
Potassium	3.4	B	0.50	0.10	mg/L	1			6010C	Total/NA
Sodium	1.2		1.0	0.32	mg/L	1			6010C	Total/NA
Chloride	0.63	J	1.0	0.56	mg/L	2			300.0	Total/NA
Sulfate	6.1		4.0	0.70	mg/L	2			300.0	Total/NA
Total Organic Carbon	1.5	B	1.0	0.43	mg/L	1			9060A	Total/NA
Alkalinity, Total	344	F1	5.0	0.79	mg/L	1			SM 2320B	Total/NA
Total hardness as CaCO3	328		4.0	1.1	mg/L	1			SM 2340C	Total/NA
Total Dissolved Solids	388	B	10.0	4.0	mg/L	1			SM 2540C	Total/NA

Client Sample ID: 8-WAY-001-001-02

Lab Sample ID: 480-128629-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.5	J	2.0	0.59	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7	J	2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	13		2.0	0.86	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.0	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.96	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	0.55	ng/L	1			537 (modified)	Total/NA
Aluminum	0.070	J	0.20	0.060	mg/L	1			6010C	Total/NA
Barium	0.18		0.0020	0.00070	mg/L	1			6010C	Total/NA
Boron	0.047		0.020	0.0040	mg/L	1			6010C	Total/NA
Calcium	125		0.50	0.10	mg/L	1			6010C	Total/NA
Cobalt	0.060		0.0040	0.00063	mg/L	1			6010C	Total/NA
Iron	1.7		0.050	0.019	mg/L	1			6010C	Total/NA
Magnesium	51.1		0.20	0.043	mg/L	1			6010C	Total/NA
Manganese	1.0	B	0.0030	0.00040	mg/L	1			6010C	Total/NA
Nickel	0.0022	J	0.010	0.0013	mg/L	1			6010C	Total/NA
Potassium	1.7	B	0.50	0.10	mg/L	1			6010C	Total/NA
Sodium	6.3		1.0	0.32	mg/L	1			6010C	Total/NA
Zinc	0.0036	J	0.010	0.0015	mg/L	1			6010C	Total/NA
Chloride	5.6		1.0	0.56	mg/L	2			300.0	Total/NA
Sulfate	75.0		4.0	0.70	mg/L	2			300.0	Total/NA
Total Organic Carbon	1.7	B	1.0	0.43	mg/L	1			9060A	Total/NA
Alkalinity, Total	485		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Total hardness as CaCO3	500		10.0	2.6	mg/L	1			SM 2340C	Total/NA
Total Dissolved Solids	581	B	10.0	4.0	mg/L	1			SM 2540C	Total/NA

Client Sample ID: 8-WAY-001-001-03

Lab Sample ID: 480-128629-3

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-03 (Continued)

Lab Sample ID: 480-128629-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.68	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.46	J B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Aluminum	0.44		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.071		0.0020	0.00070	mg/L	1		6010C	Total/NA
Boron	0.0072	J	0.020	0.0040	mg/L	1		6010C	Total/NA
Calcium	94.5		0.50	0.10	mg/L	1		6010C	Total/NA
Iron	0.42		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	29.7		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.011	B	0.0030	0.00040	mg/L	1		6010C	Total/NA
Potassium	0.94	B	0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	2.2		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.0025	J	0.010	0.0015	mg/L	1		6010C	Total/NA
Chloride	0.83	J	1.0	0.56	mg/L	2		300.0	Total/NA
Sulfate	6.8		4.0	0.70	mg/L	2		300.0	Total/NA
Total Organic Carbon	0.67	J B	1.0	0.43	mg/L	1		9060A	Total/NA
Alkalinity, Total	386		5.0	0.79	mg/L	1		SM 2320B	Total/NA
Total hardness as CaCO3	364		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	398	B	10.0	4.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: 8-WAY-001-001-04

Lab Sample ID: 480-128629-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: 8-WAY-001-001-05

Lab Sample ID: 480-128629-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.9	0.17	ng/L	1		537 (modified)	Total/NA

Client Sample ID: 8-WAY-001-001-06

Lab Sample ID: 480-128629-6

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-01

Lab Sample ID: 480-128629-1

Date Collected: 12/07/17 10:00

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L			12/15/17 12:46	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/15/17 12:46	1
Benzene	ND		1.0	0.41	ug/L			12/15/17 12:46	1
Bromochloromethane	ND		1.0	0.87	ug/L			12/15/17 12:46	1
Bromodichloromethane	ND		1.0	0.39	ug/L			12/15/17 12:46	1
Bromoform	ND		1.0	0.26	ug/L			12/15/17 12:46	1
Bromomethane	ND		1.0	0.69	ug/L			12/15/17 12:46	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/15/17 12:46	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/15/17 12:46	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/15/17 12:46	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/15/17 12:46	1
Chloroethane	ND		1.0	0.32	ug/L			12/15/17 12:46	1
Chloroform	ND		1.0	0.34	ug/L			12/15/17 12:46	1
Chloromethane	ND		1.0	0.35	ug/L			12/15/17 12:46	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			12/15/17 12:46	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/15/17 12:46	1
Dibromochloromethane	ND		1.0	0.32	ug/L			12/15/17 12:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/15/17 12:46	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			12/15/17 12:46	1
Dibromomethane	ND		1.0	0.41	ug/L			12/15/17 12:46	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			12/15/17 12:46	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			12/15/17 12:46	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/15/17 12:46	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/15/17 12:46	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/15/17 12:46	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/15/17 12:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/15/17 12:46	1
2-Hexanone	ND		5.0	1.2	ug/L			12/15/17 12:46	1
Iodomethane	ND		1.0	0.30	ug/L			12/15/17 12:46	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/15/17 12:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/15/17 12:46	1
m,p-Xylene	ND		2.0	0.66	ug/L			12/15/17 12:46	1
o-Xylene	ND		1.0	0.76	ug/L			12/15/17 12:46	1
Styrene	ND		1.0	0.73	ug/L			12/15/17 12:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/15/17 12:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/15/17 12:46	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/15/17 12:46	1
Toluene	ND		1.0	0.51	ug/L			12/15/17 12:46	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/15/17 12:46	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/15/17 12:46	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/15/17 12:46	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/15/17 12:46	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/15/17 12:46	1
Trichloroethene	ND		1.0	0.46	ug/L			12/15/17 12:46	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/15/17 12:46	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/15/17 12:46	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/15/17 12:46	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/15/17 12:46	1
Xylenes, Total	ND		2.0	0.66	ug/L			12/15/17 12:46	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-01

Lab Sample ID: 480-128629-1

Date Collected: 12/07/17 10:00

Matrix: Water

Date Received: 12/07/17 15:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		73 - 120		12/15/17 12:46	1
1,2-Dichloroethane-d4 (Surr)	96		77 - 120		12/15/17 12:46	1
Toluene-d8 (Surr)	97		80 - 120		12/15/17 12:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.050	0.026	ug/L		12/12/17 15:21	12/13/17 03:44	1
Acenaphthylene	ND		0.050	0.014	ug/L		12/12/17 15:21	12/13/17 03:44	1
Anthracene	ND		0.050	0.011	ug/L		12/12/17 15:21	12/13/17 03:44	1
Benzo[a]anthracene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 03:44	1
Benzo[a]pyrene	ND		0.050	0.025	ug/L		12/12/17 15:21	12/13/17 03:44	1
Benzo[b]fluoranthene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 03:44	1
Benzo[g,h,i]perylene	ND		0.050	0.030	ug/L		12/12/17 15:21	12/13/17 03:44	1
Benzo[k]fluoranthene	ND		0.050	0.028	ug/L		12/12/17 15:21	12/13/17 03:44	1
Chrysene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 03:44	1
Dibenz(a,h)anthracene	ND		0.050	0.037	ug/L		12/12/17 15:21	12/13/17 03:44	1
1,4-Dioxane	ND		0.40	0.044	ug/L		12/12/17 15:21	12/13/17 03:44	1
Fluoranthene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 03:44	1
Fluorene	ND		0.050	0.016	ug/L		12/12/17 15:21	12/13/17 03:44	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.021	ug/L		12/12/17 15:21	12/13/17 03:44	1
Naphthalene	ND		0.050	0.020	ug/L		12/12/17 15:21	12/13/17 03:44	1
Phenanthrene	ND		0.050	0.023	ug/L		12/12/17 15:21	12/13/17 03:44	1
Pyrene	ND		0.050	0.024	ug/L		12/12/17 15:21	12/13/17 03:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	80		45 - 107	12/12/17 15:21	12/13/17 18:06	1
2-Fluorophenol (Surr)	36		25 - 58	12/12/17 15:21	12/13/17 18:06	1
Nitrobenzene-d5 (Surr)	88		51 - 108	12/12/17 15:21	12/13/17 18:06	1
Phenol-d5 (Surr)	22		14 - 39	12/12/17 15:21	12/13/17 18:06	1
Terphenyl-d14 (Surr)	74		40 - 148	12/12/17 15:21	12/13/17 18:06	1
2,4,6-Tribromophenol (Surr)	118		26 - 139	12/12/17 15:21	12/13/17 18:06	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.96	J	1.9	0.56	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluoroheptanoic acid (PFHpA)	0.78	J	1.9	0.24	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorooctanoic acid (PFOA)	1.6	J	1.9	0.81	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorononanoic acid (PFNA)	0.33	J	1.9	0.26	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorobutanesulfonic acid (PFBS)	0.67	J	1.9	0.19	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	1.9	0.16	ng/L		12/12/17 08:31	12/12/17 23:17	1
Perfluorooctanesulfonic acid (PFOS)	0.67	J	1.9	0.52	ng/L		12/12/17 08:31	12/12/17 23:17	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-01

Lab Sample ID: 480-128629-1

Date Collected: 12/07/17 10:00

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		12/12/17 08:31	12/12/17 23:17	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		12/12/17 08:31	12/12/17 23:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	105		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C4-PFHpA	105		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C4 PFOA	105		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C5 PFNA	104		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C2 PFDA	106		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C2 PFUnA	98		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C2 PFDoA	95		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C2-PFTeDA	121		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C3-PFBS	110		25 - 150				12/12/17 08:31	12/12/17 23:17	1
18O2 PFHxS	106		25 - 150				12/12/17 08:31	12/12/17 23:17	1
13C4 PFOS	106		25 - 150				12/12/17 08:31	12/12/17 23:17	1
d3-NMeFOSAA	109		25 - 150				12/12/17 08:31	12/12/17 23:17	1
d5-NEtFOSAA	111		25 - 150				12/12/17 08:31	12/12/17 23:17	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		12/11/17 09:25	12/13/17 17:58	1
Antimony	ND		0.020	0.0068	mg/L		12/11/17 09:25	12/13/17 17:58	1
Arsenic	ND		0.015	0.0056	mg/L		12/11/17 09:25	12/13/17 17:58	1
Barium	0.060		0.0020	0.00070	mg/L		12/11/17 09:25	12/13/17 17:58	1
Beryllium	ND		0.0020	0.00030	mg/L		12/11/17 09:25	12/13/17 17:58	1
Boron	0.015	J	0.020	0.0040	mg/L		12/11/17 09:25	12/13/17 17:58	1
Cadmium	ND		0.0020	0.00050	mg/L		12/11/17 09:25	12/13/17 17:58	1
Calcium	91.8		0.50	0.10	mg/L		12/11/17 09:25	12/13/17 17:58	1
Chromium	ND		0.0040	0.0010	mg/L		12/11/17 09:25	12/13/17 17:58	1
Cobalt	ND		0.0040	0.00063	mg/L		12/11/17 09:25	12/13/17 17:58	1
Copper	ND		0.010	0.0016	mg/L		12/11/17 09:25	12/13/17 17:58	1
Iron	ND		0.050	0.019	mg/L		12/11/17 09:25	12/13/17 17:58	1
Lead	ND		0.010	0.0030	mg/L		12/11/17 09:25	12/13/17 17:58	1
Magnesium	22.3		0.20	0.043	mg/L		12/11/17 09:25	12/13/17 17:58	1
Manganese	0.0036	B	0.0030	0.00040	mg/L		12/11/17 09:25	12/13/17 17:58	1
Nickel	ND		0.010	0.0013	mg/L		12/11/17 09:25	12/13/17 17:58	1
Potassium	3.4	B	0.50	0.10	mg/L		12/11/17 09:25	12/13/17 17:58	1
Selenium	ND		0.025	0.0087	mg/L		12/11/17 09:25	12/13/17 17:58	1
Silver	ND		0.0060	0.0017	mg/L		12/11/17 09:25	12/13/17 17:58	1
Sodium	1.2		1.0	0.32	mg/L		12/11/17 09:25	12/13/17 17:58	1
Thallium	ND		0.020	0.010	mg/L		12/11/17 09:25	12/13/17 17:58	1
Vanadium	ND		0.0050	0.0015	mg/L		12/11/17 09:25	12/13/17 17:58	1
Zinc	ND		0.010	0.0015	mg/L		12/11/17 09:25	12/13/17 17:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/17 12:30	12/12/17 15:47	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-01

Lab Sample ID: 480-128629-1

Date Collected: 12/07/17 10:00

Matrix: Water

Date Received: 12/07/17 15:50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.15	mg/L			12/13/17 14:08	2
Chloride	0.63	J	1.0	0.56	mg/L			12/13/17 14:08	2
Sulfate	6.1		4.0	0.70	mg/L			12/13/17 14:08	2
Ammonia	ND		0.020	0.0090	mg/L			12/12/17 15:29	1
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/08/17 16:30	1
Total Organic Carbon	1.5	B	1.0	0.43	mg/L			12/12/17 01:15	1
Alkalinity, Total	344	F1	5.0	0.79	mg/L			12/12/17 18:23	1
Total hardness as CaCO3	328		4.0	1.1	mg/L			12/11/17 20:00	1
Total Dissolved Solids	388	B	10.0	4.0	mg/L			12/10/17 23:37	1

Client Sample ID: 8-WAY-001-001-02

Lab Sample ID: 480-128629-2

Date Collected: 12/07/17 11:20

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L			12/15/17 13:15	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/15/17 13:15	1
Benzene	ND		1.0	0.41	ug/L			12/15/17 13:15	1
Bromochloromethane	ND		1.0	0.87	ug/L			12/15/17 13:15	1
Bromodichloromethane	ND		1.0	0.39	ug/L			12/15/17 13:15	1
Bromoform	ND		1.0	0.26	ug/L			12/15/17 13:15	1
Bromomethane	ND		1.0	0.69	ug/L			12/15/17 13:15	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/15/17 13:15	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/15/17 13:15	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/15/17 13:15	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/15/17 13:15	1
Chloroethane	ND		1.0	0.32	ug/L			12/15/17 13:15	1
Chloroform	ND		1.0	0.34	ug/L			12/15/17 13:15	1
Chloromethane	ND		1.0	0.35	ug/L			12/15/17 13:15	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			12/15/17 13:15	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/15/17 13:15	1
Dibromochloromethane	ND		1.0	0.32	ug/L			12/15/17 13:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/15/17 13:15	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			12/15/17 13:15	1
Dibromomethane	ND		1.0	0.41	ug/L			12/15/17 13:15	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			12/15/17 13:15	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			12/15/17 13:15	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/15/17 13:15	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/15/17 13:15	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/15/17 13:15	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/15/17 13:15	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/15/17 13:15	1
2-Hexanone	ND		5.0	1.2	ug/L			12/15/17 13:15	1
Iodomethane	ND		1.0	0.30	ug/L			12/15/17 13:15	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/15/17 13:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/15/17 13:15	1
m,p-Xylene	ND		2.0	0.66	ug/L			12/15/17 13:15	1
o-Xylene	ND		1.0	0.76	ug/L			12/15/17 13:15	1
Styrene	ND		1.0	0.73	ug/L			12/15/17 13:15	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-02

Lab Sample ID: 480-128629-2

Date Collected: 12/07/17 11:20

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/15/17 13:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/15/17 13:15	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/15/17 13:15	1
Toluene	ND		1.0	0.51	ug/L			12/15/17 13:15	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/15/17 13:15	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/15/17 13:15	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/15/17 13:15	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/15/17 13:15	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/15/17 13:15	1
Trichloroethene	ND		1.0	0.46	ug/L			12/15/17 13:15	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/15/17 13:15	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/15/17 13:15	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/15/17 13:15	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/15/17 13:15	1
Xylenes, Total	ND		2.0	0.66	ug/L			12/15/17 13:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120		12/15/17 13:15	1
1,2-Dichloroethane-d4 (Surr)	93		77 - 120		12/15/17 13:15	1
Toluene-d8 (Surr)	96		80 - 120		12/15/17 13:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.050	0.026	ug/L		12/12/17 15:21	12/13/17 04:11	1
Acenaphthylene	ND		0.050	0.014	ug/L		12/12/17 15:21	12/13/17 04:11	1
Anthracene	ND		0.050	0.011	ug/L		12/12/17 15:21	12/13/17 04:11	1
Benzo[a]anthracene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 04:11	1
Benzo[a]pyrene	ND		0.050	0.025	ug/L		12/12/17 15:21	12/13/17 04:11	1
Benzo[b]fluoranthene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 04:11	1
Benzo[g,h,i]perylene	ND		0.050	0.030	ug/L		12/12/17 15:21	12/13/17 04:11	1
Benzo[k]fluoranthene	ND		0.050	0.028	ug/L		12/12/17 15:21	12/13/17 04:11	1
Chrysene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 04:11	1
Dibenz(a,h)anthracene	ND		0.050	0.037	ug/L		12/12/17 15:21	12/13/17 04:11	1
1,4-Dioxane	ND		0.40	0.044	ug/L		12/12/17 15:21	12/13/17 04:11	1
Fluoranthene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 04:11	1
Fluorene	ND		0.050	0.016	ug/L		12/12/17 15:21	12/13/17 04:11	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.021	ug/L		12/12/17 15:21	12/13/17 04:11	1
Naphthalene	ND		0.050	0.020	ug/L		12/12/17 15:21	12/13/17 04:11	1
Phenanthrene	ND		0.050	0.023	ug/L		12/12/17 15:21	12/13/17 04:11	1
Pyrene	ND		0.050	0.024	ug/L		12/12/17 15:21	12/13/17 04:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		45 - 107	12/12/17 15:21	12/13/17 18:27	1
2-Fluorophenol (Surr)	27		25 - 58	12/12/17 15:21	12/13/17 18:27	1
Nitrobenzene-d5 (Surr)	65		51 - 108	12/12/17 15:21	12/13/17 18:27	1
Phenol-d5 (Surr)	17		14 - 39	12/12/17 15:21	12/13/17 18:27	1
Terphenyl-d14 (Surr)	66		40 - 148	12/12/17 15:21	12/13/17 18:27	1
2,4,6-Tribromophenol (Surr)	89		26 - 139	12/12/17 15:21	12/13/17 18:27	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-02

Lab Sample ID: 480-128629-2

Date Collected: 12/07/17 11:20

Matrix: Water

Date Received: 12/07/17 15:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	1.5	J	2.0	0.59	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluoroheptanoic acid (PFHpA)	1.7	J	2.0	0.25	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorooctanoic acid (PFOA)	13		2.0	0.86	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorobutanesulfonic acid (PFBS)	1.0	J	2.0	0.20	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorohexanesulfonic acid (PFHxS)	0.96	J B	2.0	0.17	ng/L		12/12/17 08:31	12/12/17 23:25	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	0.55	ng/L		12/12/17 08:31	12/12/17 23:25	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		12/12/17 08:31	12/12/17 23:25	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		12/12/17 08:31	12/12/17 23:25	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	103		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C4-PFHxA	111		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C4 PFOA	106		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C5 PFNA	108		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C2 PFDA	108		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C2 PFUnA	103		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C2 PFDoA	97		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C2-PFTeDA	122		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C3-PFBS	112		25 - 150				12/12/17 08:31	12/12/17 23:25	1
18O2 PFHxS	105		25 - 150				12/12/17 08:31	12/12/17 23:25	1
13C4 PFOS	106		25 - 150				12/12/17 08:31	12/12/17 23:25	1
d3-NMeFOSAA	114		25 - 150				12/12/17 08:31	12/12/17 23:25	1
d5-NEtFOSAA	117		25 - 150				12/12/17 08:31	12/12/17 23:25	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.070	J	0.20	0.060	mg/L		12/11/17 09:25	12/13/17 18:02	1
Antimony	ND		0.020	0.0068	mg/L		12/11/17 09:25	12/13/17 18:02	1
Arsenic	ND		0.015	0.0056	mg/L		12/11/17 09:25	12/13/17 18:02	1
Barium	0.18		0.0020	0.00070	mg/L		12/11/17 09:25	12/13/17 18:02	1
Beryllium	ND		0.0020	0.00030	mg/L		12/11/17 09:25	12/13/17 18:02	1
Boron	0.047		0.020	0.0040	mg/L		12/11/17 09:25	12/13/17 18:02	1
Cadmium	ND		0.0020	0.00050	mg/L		12/11/17 09:25	12/13/17 18:02	1
Calcium	125		0.50	0.10	mg/L		12/11/17 09:25	12/13/17 18:02	1
Chromium	ND		0.0040	0.0010	mg/L		12/11/17 09:25	12/13/17 18:02	1
Cobalt	0.060		0.0040	0.00063	mg/L		12/11/17 09:25	12/13/17 18:02	1
Copper	ND		0.010	0.0016	mg/L		12/11/17 09:25	12/13/17 18:02	1
Iron	1.7		0.050	0.019	mg/L		12/11/17 09:25	12/13/17 18:02	1
Lead	ND		0.010	0.0030	mg/L		12/11/17 09:25	12/13/17 18:02	1
Magnesium	51.1		0.20	0.043	mg/L		12/11/17 09:25	12/13/17 18:02	1
Manganese	1.0	B	0.0030	0.00040	mg/L		12/11/17 09:25	12/13/17 18:02	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-02

Lab Sample ID: 480-128629-2

Date Collected: 12/07/17 11:20

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	0.0022	J	0.010	0.0013	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Potassium	1.7	B	0.50	0.10	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Selenium	ND		0.025	0.0087	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Silver	ND		0.0060	0.0017	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Sodium	6.3		1.0	0.32	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Thallium	ND		0.020	0.010	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Vanadium	ND		0.0050	0.0015	mg/L	—	12/11/17 09:25	12/13/17 18:02	1
Zinc	0.0036	J	0.010	0.0015	mg/L	—	12/11/17 09:25	12/13/17 18:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L	—	12/12/17 12:30	12/12/17 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.15	mg/L	—		12/13/17 14:22	2
Chloride	5.6		1.0	0.56	mg/L	—		12/13/17 14:22	2
Sulfate	75.0		4.0	0.70	mg/L	—		12/13/17 14:22	2
Ammonia	ND		0.020	0.0090	mg/L	—		12/12/17 15:30	1
Chemical Oxygen Demand	ND		10.0	5.0	mg/L	—		12/08/17 16:30	1
Total Organic Carbon	1.7	B	1.0	0.43	mg/L	—		12/12/17 02:10	1
Alkalinity, Total	485		5.0	0.79	mg/L	—		12/12/17 18:38	1
Total hardness as CaCO3	500		10.0	2.6	mg/L	—		12/11/17 20:00	1
Total Dissolved Solids	581	B	10.0	4.0	mg/L	—		12/10/17 23:37	1

Client Sample ID: 8-WAY-001-001-03

Lab Sample ID: 480-128629-3

Date Collected: 12/07/17 13:00

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L	—		12/15/17 13:42	1
Acrylonitrile	ND		5.0	0.83	ug/L	—		12/15/17 13:42	1
Benzene	ND		1.0	0.41	ug/L	—		12/15/17 13:42	1
Bromochloromethane	ND		1.0	0.87	ug/L	—		12/15/17 13:42	1
Bromodichloromethane	ND		1.0	0.39	ug/L	—		12/15/17 13:42	1
Bromoform	ND		1.0	0.26	ug/L	—		12/15/17 13:42	1
Bromomethane	ND		1.0	0.69	ug/L	—		12/15/17 13:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L	—		12/15/17 13:42	1
Carbon disulfide	ND		1.0	0.19	ug/L	—		12/15/17 13:42	1
Carbon tetrachloride	ND		1.0	0.27	ug/L	—		12/15/17 13:42	1
Chlorobenzene	ND		1.0	0.75	ug/L	—		12/15/17 13:42	1
Chloroethane	ND		1.0	0.32	ug/L	—		12/15/17 13:42	1
Chloroform	ND		1.0	0.34	ug/L	—		12/15/17 13:42	1
Chloromethane	ND		1.0	0.35	ug/L	—		12/15/17 13:42	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L	—		12/15/17 13:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L	—		12/15/17 13:42	1
Dibromochloromethane	ND		1.0	0.32	ug/L	—		12/15/17 13:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L	—		12/15/17 13:42	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L	—		12/15/17 13:42	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-03

Lab Sample ID: 480-128629-3

Date Collected: 12/07/17 13:00

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0	0.41	ug/L			12/15/17 13:42	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			12/15/17 13:42	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			12/15/17 13:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/15/17 13:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/15/17 13:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/15/17 13:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/15/17 13:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/15/17 13:42	1
2-Hexanone	ND		5.0	1.2	ug/L			12/15/17 13:42	1
Iodomethane	ND		1.0	0.30	ug/L			12/15/17 13:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/15/17 13:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/15/17 13:42	1
m,p-Xylene	ND		2.0	0.66	ug/L			12/15/17 13:42	1
o-Xylene	ND		1.0	0.76	ug/L			12/15/17 13:42	1
Styrene	ND		1.0	0.73	ug/L			12/15/17 13:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/15/17 13:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/15/17 13:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/15/17 13:42	1
Toluene	ND		1.0	0.51	ug/L			12/15/17 13:42	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/15/17 13:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/15/17 13:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/15/17 13:42	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/15/17 13:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/15/17 13:42	1
Trichloroethene	ND		1.0	0.46	ug/L			12/15/17 13:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/15/17 13:42	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/15/17 13:42	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/15/17 13:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/15/17 13:42	1
Xylenes, Total	ND		2.0	0.66	ug/L			12/15/17 13:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		73 - 120					12/15/17 13:42	1
1,2-Dichloroethane-d4 (Surr)	92		77 - 120					12/15/17 13:42	1
Toluene-d8 (Surr)	97		80 - 120					12/15/17 13:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.050	0.026	ug/L		12/12/17 15:21	12/13/17 04:38	1
Acenaphthylene	ND		0.050	0.014	ug/L		12/12/17 15:21	12/13/17 04:38	1
Anthracene	ND		0.050	0.011	ug/L		12/12/17 15:21	12/13/17 04:38	1
Benzo[a]anthracene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 04:38	1
Benzo[a]pyrene	ND		0.050	0.025	ug/L		12/12/17 15:21	12/13/17 04:38	1
Benzo[b]fluoranthene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 04:38	1
Benzo[g,h,i]perylene	ND		0.050	0.030	ug/L		12/12/17 15:21	12/13/17 04:38	1
Benzo[k]fluoranthene	ND		0.050	0.028	ug/L		12/12/17 15:21	12/13/17 04:38	1
Chrysene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 04:38	1
Dibenz(a,h)anthracene	ND		0.050	0.037	ug/L		12/12/17 15:21	12/13/17 04:38	1
1,4-Dioxane	ND		0.40	0.044	ug/L		12/12/17 15:21	12/13/17 04:38	1
Fluoranthene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 04:38	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-03

Lab Sample ID: 480-128629-3

Date Collected: 12/07/17 13:00

Matrix: Water

Date Received: 12/07/17 15:50

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.050	0.016	ug/L		12/12/17 15:21	12/13/17 04:38	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.021	ug/L		12/12/17 15:21	12/13/17 04:38	1
Naphthalene	ND		0.050	0.020	ug/L		12/12/17 15:21	12/13/17 04:38	1
Phenanthrene	ND		0.050	0.023	ug/L		12/12/17 15:21	12/13/17 04:38	1
Pyrene	ND		0.050	0.024	ug/L		12/12/17 15:21	12/13/17 04:38	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		45 - 107	12/12/17 15:21	12/13/17 18:47	1
2-Fluorophenol (Surr)	34		25 - 58	12/12/17 15:21	12/13/17 18:47	1
Nitrobenzene-d5 (Surr)	81		51 - 108	12/12/17 15:21	12/13/17 18:47	1
Phenol-d5 (Surr)	21		14 - 39	12/12/17 15:21	12/13/17 18:47	1
Terphenyl-d14 (Surr)	62		40 - 148	12/12/17 15:21	12/13/17 18:47	1
2,4,6-Tribromophenol (Surr)	111		26 - 139	12/12/17 15:21	12/13/17 18:47	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.82	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorobutanesulfonic acid (PFBS)	0.68	J	1.9	0.19	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorohexanesulfonic acid (PFHxS)	0.46	J B	1.9	0.16	ng/L		12/12/17 08:31	12/12/17 23:33	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		12/12/17 08:31	12/12/17 23:33	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		12/12/17 08:31	12/12/17 23:33	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		12/12/17 08:31	12/12/17 23:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	107		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C4-PFHpA	109		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C4 PFOA	105		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C5 PFNA	108		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C2 PFDA	109		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C2 PFUnA	102		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C2 PFDoA	100		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C2-PFTeDA	113		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C3-PFBS	108		25 - 150	12/12/17 08:31	12/12/17 23:33	1
18O2 PFHxS	106		25 - 150	12/12/17 08:31	12/12/17 23:33	1
13C4 PFOS	102		25 - 150	12/12/17 08:31	12/12/17 23:33	1
d3-NMeFOSAA	118		25 - 150	12/12/17 08:31	12/12/17 23:33	1
d5-NEtFOSAA	114		25 - 150	12/12/17 08:31	12/12/17 23:33	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-03

Lab Sample ID: 480-128629-3

Date Collected: 12/07/17 13:00

Matrix: Water

Date Received: 12/07/17 15:50

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.44		0.20	0.060	mg/L		12/11/17 09:25	12/13/17 18:05	1
Antimony	ND		0.020	0.0068	mg/L		12/11/17 09:25	12/13/17 18:05	1
Arsenic	ND		0.015	0.0056	mg/L		12/11/17 09:25	12/13/17 18:05	1
Barium	0.071		0.0020	0.00070	mg/L		12/11/17 09:25	12/13/17 18:05	1
Beryllium	ND		0.0020	0.00030	mg/L		12/11/17 09:25	12/13/17 18:05	1
Boron	0.0072	J	0.020	0.0040	mg/L		12/11/17 09:25	12/13/17 18:05	1
Cadmium	ND		0.0020	0.00050	mg/L		12/11/17 09:25	12/13/17 18:05	1
Calcium	94.5		0.50	0.10	mg/L		12/11/17 09:25	12/13/17 18:05	1
Chromium	ND		0.0040	0.0010	mg/L		12/11/17 09:25	12/13/17 18:05	1
Cobalt	ND		0.0040	0.00063	mg/L		12/11/17 09:25	12/13/17 18:05	1
Copper	ND		0.010	0.0016	mg/L		12/11/17 09:25	12/13/17 18:05	1
Iron	0.42		0.050	0.019	mg/L		12/11/17 09:25	12/13/17 18:05	1
Lead	ND		0.010	0.0030	mg/L		12/11/17 09:25	12/13/17 18:05	1
Magnesium	29.7		0.20	0.043	mg/L		12/11/17 09:25	12/13/17 18:05	1
Manganese	0.011	B	0.0030	0.00040	mg/L		12/11/17 09:25	12/13/17 18:05	1
Nickel	ND		0.010	0.0013	mg/L		12/11/17 09:25	12/13/17 18:05	1
Potassium	0.94	B	0.50	0.10	mg/L		12/11/17 09:25	12/13/17 18:05	1
Selenium	ND		0.025	0.0087	mg/L		12/11/17 09:25	12/13/17 18:05	1
Silver	ND		0.0060	0.0017	mg/L		12/11/17 09:25	12/13/17 18:05	1
Sodium	2.2		1.0	0.32	mg/L		12/11/17 09:25	12/13/17 18:05	1
Thallium	ND		0.020	0.010	mg/L		12/11/17 09:25	12/13/17 18:05	1
Vanadium	ND		0.0050	0.0015	mg/L		12/11/17 09:25	12/13/17 18:05	1
Zinc	0.0025	J	0.010	0.0015	mg/L		12/11/17 09:25	12/13/17 18:05	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/17 12:30	12/12/17 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.15	mg/L			12/13/17 14:37	2
Chloride	0.83	J	1.0	0.56	mg/L			12/13/17 14:37	2
Sulfate	6.8		4.0	0.70	mg/L			12/13/17 14:37	2
Ammonia	ND		0.020	0.0090	mg/L			12/12/17 15:31	1
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/08/17 16:30	1
Total Organic Carbon	0.67	J B	1.0	0.43	mg/L			12/12/17 02:37	1
Alkalinity, Total	386		5.0	0.79	mg/L			12/12/17 18:45	1
Total hardness as CaCO3	364		4.0	1.1	mg/L			12/11/17 20:00	1
Total Dissolved Solids	398	B	10.0	4.0	mg/L			12/10/17 23:37	1

Client Sample ID: 8-WAY-001-001-04

Lab Sample ID: 480-128629-4

Date Collected: 12/07/17 13:25

Matrix: Water

Date Received: 12/07/17 15:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		12/12/17 08:31	12/12/17 23:41	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-04

Lab Sample ID: 480-128629-4

Date Collected: 12/07/17 13:25

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.0	0.17	ng/L		12/12/17 08:31	12/12/17 23:41	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		12/12/17 08:31	12/12/17 23:41	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		12/12/17 08:31	12/12/17 23:41	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		12/12/17 08:31	12/12/17 23:41	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	111		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C4-PFHpA	111		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C4 PFOA	112		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C5 PFNA	116		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C2 PFDA	109		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C2 PFUnA	106		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C2 PFDoA	104		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C2-PFTeDA	120		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C3-PFBS	110		25 - 150				12/12/17 08:31	12/12/17 23:41	1
18O2 PFHxS	108		25 - 150				12/12/17 08:31	12/12/17 23:41	1
13C4 PFOS	112		25 - 150				12/12/17 08:31	12/12/17 23:41	1
d3-NMeFOSAA	116		25 - 150				12/12/17 08:31	12/12/17 23:41	1
d5-NEtFOSAA	117		25 - 150				12/12/17 08:31	12/12/17 23:41	1

Client Sample ID: 8-WAY-001-001-05

Lab Sample ID: 480-128629-5

Date Collected: 12/07/17 13:30

Matrix: Water

Date Received: 12/07/17 15:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.83	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.9	0.17	ng/L		12/12/17 08:31	12/12/17 23:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		12/12/17 08:31	12/12/17 23:48	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		12/12/17 08:31	12/12/17 23:48	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		12/12/17 08:31	12/12/17 23:48	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-05

Lab Sample ID: 480-128629-5

Date Collected: 12/07/17 13:30

Matrix: Water

Date Received: 12/07/17 15:50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	112		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C4-PFHpA	107		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C4 PFOA	110		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C5 PFNA	113		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C2 PFDA	112		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C2 PFUnA	107		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C2 PFDoA	106		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C2-PFTeDA	114		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C3-PFBS	114		25 - 150	12/12/17 08:31	12/12/17 23:48	1
18O2 PFHxS	109		25 - 150	12/12/17 08:31	12/12/17 23:48	1
13C4 PFOS	112		25 - 150	12/12/17 08:31	12/12/17 23:48	1
d3-NMeFOSAA	116		25 - 150	12/12/17 08:31	12/12/17 23:48	1
d5-NEtFOSAA	119		25 - 150	12/12/17 08:31	12/12/17 23:48	1

Client Sample ID: 8-WAY-001-001-06

Lab Sample ID: 480-128629-6

Date Collected: 12/07/17 13:35

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L			12/15/17 14:08	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/15/17 14:08	1
Benzene	ND		1.0	0.41	ug/L			12/15/17 14:08	1
Bromochloromethane	ND		1.0	0.87	ug/L			12/15/17 14:08	1
Bromodichloromethane	ND		1.0	0.39	ug/L			12/15/17 14:08	1
Bromoform	ND		1.0	0.26	ug/L			12/15/17 14:08	1
Bromomethane	ND		1.0	0.69	ug/L			12/15/17 14:08	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/15/17 14:08	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/15/17 14:08	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/15/17 14:08	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/15/17 14:08	1
Chloroethane	ND		1.0	0.32	ug/L			12/15/17 14:08	1
Chloroform	ND		1.0	0.34	ug/L			12/15/17 14:08	1
Chloromethane	ND		1.0	0.35	ug/L			12/15/17 14:08	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			12/15/17 14:08	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/15/17 14:08	1
Dibromochloromethane	ND		1.0	0.32	ug/L			12/15/17 14:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/15/17 14:08	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			12/15/17 14:08	1
Dibromomethane	ND		1.0	0.41	ug/L			12/15/17 14:08	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			12/15/17 14:08	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			12/15/17 14:08	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/15/17 14:08	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/15/17 14:08	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/15/17 14:08	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/15/17 14:08	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/15/17 14:08	1
2-Hexanone	ND		5.0	1.2	ug/L			12/15/17 14:08	1
Iodomethane	ND		1.0	0.30	ug/L			12/15/17 14:08	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/15/17 14:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/15/17 14:08	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-06

Lab Sample ID: 480-128629-6

Date Collected: 12/07/17 13:35

Matrix: Water

Date Received: 12/07/17 15:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0	0.66	ug/L			12/15/17 14:08	1
o-Xylene	ND		1.0	0.76	ug/L			12/15/17 14:08	1
Styrene	ND		1.0	0.73	ug/L			12/15/17 14:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/15/17 14:08	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/15/17 14:08	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/15/17 14:08	1
Toluene	ND		1.0	0.51	ug/L			12/15/17 14:08	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/15/17 14:08	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/15/17 14:08	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/15/17 14:08	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/15/17 14:08	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/15/17 14:08	1
Trichloroethene	ND		1.0	0.46	ug/L			12/15/17 14:08	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/15/17 14:08	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/15/17 14:08	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/15/17 14:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/15/17 14:08	1
Xylenes, Total	ND		2.0	0.66	ug/L			12/15/17 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		73 - 120		12/15/17 14:08	1
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		12/15/17 14:08	1
Toluene-d8 (Surr)	98		80 - 120		12/15/17 14:08	1

Surrogate Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (73-120)	DCA (77-120)	TOL (80-120)
480-128629-1	8-WAY-001-001-01	104	96	97
480-128629-2	8-WAY-001-001-02	102	93	96
480-128629-3	8-WAY-001-001-03	102	92	97
480-128629-6	8-WAY-001-001-06	98	98	98
LCS 480-392196/27	Lab Control Sample	107	99	100
MB 480-392196/6	Method Blank	99	97	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (45-107)	2FP (25-58)	NBZ (51-108)	PHL (14-39)	TPHL (40-148)	TBP (26-139)
480-128629-1	8-WAY-001-001-01	80	36	88	22	74	118
480-128629-2	8-WAY-001-001-02	57	27	65	17	66	89
480-128629-3	8-WAY-001-001-03	74	34	81	21	62	111
LCS 460-483653/2-A	Lab Control Sample	82	41	93	27	72	130
MB 460-483653/1-A	Method Blank	82	44	94	28	71	124

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL = Phenol-d5 (Surr)

TPHL = Terphenyl-d14 (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

Isotope Dilution Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)	PFDaA (25-150)	PFTDA (25-150)
480-128629-1	8-WAY-001-001-01	105	105	105	104	106	98	95	121
480-128629-2	8-WAY-001-001-02	103	111	106	108	108	103	97	122
480-128629-3	8-WAY-001-001-03	107	109	105	108	109	102	100	113
480-128629-4	8-WAY-001-001-04	111	111	112	116	109	106	104	120
480-128629-5	8-WAY-001-001-05	112	107	110	113	112	107	106	114
LCS 320-199446/2-A	Lab Control Sample	108	112	108	113	116	109	97	114
LCSD 320-199446/3-A	Lab Control Sample Dup	110	106	105	113	113	105	102	108
MB 320-199446/1-A	Method Blank	113	112	112	107	108	105	105	119

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	3C3-PFBs (25-150)	PFHxS (25-150)	PFOS (25-150)	-NMeFOS, (25-150)	-NEtFOS/ (25-150)
480-128629-1	8-WAY-001-001-01	110	106	106	109	111
480-128629-2	8-WAY-001-001-02	112	105	106	114	117
480-128629-3	8-WAY-001-001-03	108	106	102	118	114
480-128629-4	8-WAY-001-001-04	110	108	112	116	117
480-128629-5	8-WAY-001-001-05	114	109	112	116	119
LCS 320-199446/2-A	Lab Control Sample	112	108	109	110	112
LCSD 320-199446/3-A	Lab Control Sample Dup	109	110	109	115	114
MB 320-199446/1-A	Method Blank	101	110	108	107	115

Surrogate Legend

PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDaA = 13C2 PFDaA
PFTDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Lab Sample ID: MB 480-392196/6

Matrix: Water

Analysis Batch: 392196

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	3.0	ug/L			12/15/17 11:43	1
Acrylonitrile	ND		5.0	0.83	ug/L			12/15/17 11:43	1
Benzene	ND		1.0	0.41	ug/L			12/15/17 11:43	1
Bromochloromethane	ND		1.0	0.87	ug/L			12/15/17 11:43	1
Bromodichloromethane	ND		1.0	0.39	ug/L			12/15/17 11:43	1
Bromoform	ND		1.0	0.26	ug/L			12/15/17 11:43	1
Bromomethane	ND		1.0	0.69	ug/L			12/15/17 11:43	1
2-Butanone (MEK)	ND		10	1.3	ug/L			12/15/17 11:43	1
Carbon disulfide	ND		1.0	0.19	ug/L			12/15/17 11:43	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			12/15/17 11:43	1
Chlorobenzene	ND		1.0	0.75	ug/L			12/15/17 11:43	1
Chloroethane	ND		1.0	0.32	ug/L			12/15/17 11:43	1
Chloroform	ND		1.0	0.34	ug/L			12/15/17 11:43	1
Chloromethane	ND		1.0	0.35	ug/L			12/15/17 11:43	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			12/15/17 11:43	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			12/15/17 11:43	1
Dibromochloromethane	ND		1.0	0.32	ug/L			12/15/17 11:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			12/15/17 11:43	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			12/15/17 11:43	1
Dibromomethane	ND		1.0	0.41	ug/L			12/15/17 11:43	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			12/15/17 11:43	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			12/15/17 11:43	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			12/15/17 11:43	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			12/15/17 11:43	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			12/15/17 11:43	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			12/15/17 11:43	1
Ethylbenzene	ND		1.0	0.74	ug/L			12/15/17 11:43	1
2-Hexanone	ND		5.0	1.2	ug/L			12/15/17 11:43	1
Iodomethane	ND		1.0	0.30	ug/L			12/15/17 11:43	1
Methylene Chloride	ND		1.0	0.44	ug/L			12/15/17 11:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			12/15/17 11:43	1
m,p-Xylene	ND		2.0	0.66	ug/L			12/15/17 11:43	1
o-Xylene	ND		1.0	0.76	ug/L			12/15/17 11:43	1
Styrene	ND		1.0	0.73	ug/L			12/15/17 11:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.35	ug/L			12/15/17 11:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			12/15/17 11:43	1
Tetrachloroethene	ND		1.0	0.36	ug/L			12/15/17 11:43	1
Toluene	ND		1.0	0.51	ug/L			12/15/17 11:43	1
trans-1,4-Dichloro-2-butene	ND		1.0	0.22	ug/L			12/15/17 11:43	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			12/15/17 11:43	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			12/15/17 11:43	1
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			12/15/17 11:43	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			12/15/17 11:43	1
Trichloroethene	ND		1.0	0.46	ug/L			12/15/17 11:43	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			12/15/17 11:43	1
1,2,3-Trichloropropane	ND		1.0	0.89	ug/L			12/15/17 11:43	1
Vinyl acetate	ND		5.0	0.85	ug/L			12/15/17 11:43	1
Vinyl chloride	ND		1.0	0.90	ug/L			12/15/17 11:43	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Lab Sample ID: MB 480-392196/6

Matrix: Water

Analysis Batch: 392196

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		2.0	0.66	ug/L			12/15/17 11:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		73 - 120					12/15/17 11:43	1
1,2-Dichloroethane-d4 (Surr)	97		77 - 120					12/15/17 11:43	1
Toluene-d8 (Surr)	95		80 - 120					12/15/17 11:43	1

Lab Sample ID: LCS 480-392196/27

Matrix: Water

Analysis Batch: 392196

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	125	70.0		ug/L		56	56 - 142
Acrylonitrile	250	228		ug/L		91	63 - 125
Benzene	25.0	25.2		ug/L		101	71 - 124
Bromochloromethane	25.0	23.8		ug/L		95	72 - 130
Bromodichloromethane	25.0	25.6		ug/L		102	80 - 122
Bromoform	25.0	24.5		ug/L		98	61 - 132
Bromomethane	25.0	24.4		ug/L		98	55 - 144
2-Butanone (MEK)	125	95.8		ug/L		77	57 - 140
Carbon disulfide	25.0	26.5		ug/L		106	59 - 134
Carbon tetrachloride	25.0	27.2		ug/L		109	72 - 134
Chlorobenzene	25.0	24.0		ug/L		96	80 - 120
Chloroethane	25.0	24.4		ug/L		97	69 - 136
Chloroform	25.0	24.5		ug/L		98	73 - 127
Chloromethane	25.0	22.1		ug/L		88	68 - 124
cis-1,2-Dichloroethene	25.0	25.5		ug/L		102	74 - 124
cis-1,3-Dichloropropene	25.0	26.5		ug/L		106	74 - 124
Dibromochloromethane	25.0	25.6		ug/L		102	75 - 125
1,2-Dibromo-3-Chloropropane	25.0	24.8		ug/L		99	56 - 134
1,2-Dibromoethane	25.0	24.4		ug/L		98	77 - 120
Dibromomethane	25.0	23.5		ug/L		94	76 - 127
1,2-Dichlorobenzene	25.0	24.6		ug/L		99	80 - 124
1,4-Dichlorobenzene	25.0	24.2		ug/L		97	80 - 120
1,1-Dichloroethane	25.0	25.3		ug/L		101	77 - 120
1,2-Dichloroethane	25.0	23.3		ug/L		93	75 - 120
1,1-Dichloroethene	25.0	24.6		ug/L		99	66 - 127
1,2-Dichloropropane	25.0	24.8		ug/L		99	76 - 120
Ethylbenzene	25.0	25.3		ug/L		101	77 - 123
2-Hexanone	125	99.4		ug/L		80	65 - 127
Iodomethane	25.0	24.9		ug/L		100	78 - 123
Methylene Chloride	25.0	28.1		ug/L		112	75 - 124
4-Methyl-2-pentanone (MIBK)	125	113		ug/L		90	71 - 125
m,p-Xylene	25.0	26.1		ug/L		105	76 - 122
o-Xylene	25.0	26.5		ug/L		106	76 - 122
Styrene	25.0	25.4		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	25.0	25.9		ug/L		104	80 - 120
1,1,2,2-Tetrachloroethane	25.0	22.8		ug/L		91	76 - 120

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Lab Sample ID: LCS 480-392196/27

Matrix: Water

Analysis Batch: 392196

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	25.0	25.3		ug/L		101	74 - 122
Toluene	25.0	23.6		ug/L		95	80 - 122
trans-1,4-Dichloro-2-butene	25.0	26.6		ug/L		107	41 - 131
trans-1,2-Dichloroethene	25.0	26.3		ug/L		105	73 - 127
trans-1,3-Dichloropropene	25.0	27.1		ug/L		108	80 - 120
1,1,1-Trichloroethane	25.0	26.0		ug/L		104	73 - 126
1,1,2-Trichloroethane	25.0	21.7		ug/L		87	76 - 122
Trichloroethene	25.0	25.2		ug/L		101	74 - 123
Trichlorofluoromethane	25.0	24.2		ug/L		97	62 - 150
1,2,3-Trichloropropane	25.0	21.7		ug/L		87	68 - 122
Vinyl acetate	50.0	49.8		ug/L		100	50 - 144
Vinyl chloride	25.0	23.0		ug/L		92	65 - 133

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

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-483653/1-A

Matrix: Water

Analysis Batch: 483880

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 483653

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	82		45 - 107	12/12/17 15:21	12/13/17 10:38	1
2-Fluorophenol (Surr)	44		25 - 58	12/12/17 15:21	12/13/17 10:38	1
Nitrobenzene-d5 (Surr)	94		51 - 108	12/12/17 15:21	12/13/17 10:38	1
Phenol-d5 (Surr)	28		14 - 39	12/12/17 15:21	12/13/17 10:38	1
Terphenyl-d14 (Surr)	71		40 - 148	12/12/17 15:21	12/13/17 10:38	1
2,4,6-Tribromophenol (Surr)	124		26 - 139	12/12/17 15:21	12/13/17 10:38	1

Lab Sample ID: LCS 460-483653/2-A

Matrix: Water

Analysis Batch: 483880

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 483653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	80.0	62.8		ug/L		78	58 - 107
Acenaphthylene	80.0	64.2		ug/L		80	61 - 106
Anthracene	80.0	71.9		ug/L		90	70 - 118
Benzo[a]anthracene	80.0	81.5		ug/L		102	73 - 119
Benzo[a]pyrene	80.0	82.9		ug/L		104	76 - 125
Benzo[b]fluoranthene	80.0	86.6		ug/L		108	78 - 123
Benzo[g,h,i]perylene	80.0	81.8		ug/L		102	63 - 133
Benzo[k]fluoranthene	80.0	76.8		ug/L		96	71 - 126
Chrysene	80.0	78.3		ug/L		98	73 - 121
Dibenz(a,h)anthracene	80.0	83.8		ug/L		105	59 - 136

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 460-483653/2-A

Matrix: Water

Analysis Batch: 483880

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 483653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	80.0	32.0		ug/L		40	25 - 66
Fluoranthene	80.0	81.2		ug/L		102	66 - 123
Fluorene	80.0	70.7		ug/L		88	67 - 112
Indeno[1,2,3-cd]pyrene	80.0	88.3		ug/L		110	57 - 142
Naphthalene	80.0	59.2		ug/L		74	51 - 98
Phenanthrene	80.0	70.5		ug/L		88	70 - 117
Pyrene	80.0	70.7		ug/L		88	63 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	82		45 - 107
2-Fluorophenol (Surr)	41		25 - 58
Nitrobenzene-d5 (Surr)	93		51 - 108
Phenol-d5 (Surr)	27		14 - 39
Terphenyl-d14 (Surr)	72		40 - 148
2,4,6-Tribromophenol (Surr)	130		26 - 139

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

Lab Sample ID: MB 460-483653/1-A

Matrix: Water

Analysis Batch: 483751

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 483653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.050	0.026	ug/L		12/12/17 15:21	12/13/17 00:11	1
Acenaphthylene	ND		0.050	0.014	ug/L		12/12/17 15:21	12/13/17 00:11	1
Anthracene	ND		0.050	0.011	ug/L		12/12/17 15:21	12/13/17 00:11	1
Benzo[a]anthracene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 00:11	1
Benzo[a]pyrene	ND		0.050	0.025	ug/L		12/12/17 15:21	12/13/17 00:11	1
Benzo[b]fluoranthene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 00:11	1
Benzo[g,h,i]perylene	ND		0.050	0.030	ug/L		12/12/17 15:21	12/13/17 00:11	1
Benzo[k]fluoranthene	ND		0.050	0.028	ug/L		12/12/17 15:21	12/13/17 00:11	1
Chrysene	ND		0.050	0.019	ug/L		12/12/17 15:21	12/13/17 00:11	1
Dibenz(a,h)anthracene	ND		0.050	0.037	ug/L		12/12/17 15:21	12/13/17 00:11	1
1,4-Dioxane	ND		0.40	0.044	ug/L		12/12/17 15:21	12/13/17 00:11	1
Fluoranthene	ND		0.050	0.018	ug/L		12/12/17 15:21	12/13/17 00:11	1
Fluorene	ND		0.050	0.016	ug/L		12/12/17 15:21	12/13/17 00:11	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.021	ug/L		12/12/17 15:21	12/13/17 00:11	1
Naphthalene	ND		0.050	0.020	ug/L		12/12/17 15:21	12/13/17 00:11	1
Phenanthrene	ND		0.050	0.023	ug/L		12/12/17 15:21	12/13/17 00:11	1
Pyrene	ND		0.050	0.024	ug/L		12/12/17 15:21	12/13/17 00:11	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-199446/1-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 199446

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorotetradecanoic acid (PFTeA)	0.626	J	2.0	0.29	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorohexanesulfonic acid (PFHxS)	0.307	J	2.0	0.17	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		12/12/17 08:31	12/12/17 22:53	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		12/12/17 08:31	12/12/17 22:53	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		12/12/17 08:31	12/12/17 22:53	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	113		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C4-PFHxA	112		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C4 PFOA	112		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C5 PFNA	107		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2 PFDA	108		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2 PFUnA	105		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2 PFDoA	105		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2-PFTeDA	119		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C3-PFBS	101		25 - 150	12/12/17 08:31	12/12/17 22:53	1
18O2 PFHxS	110		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C4 PFOS	108		25 - 150	12/12/17 08:31	12/12/17 22:53	1
d3-NMeFOSAA	107		25 - 150	12/12/17 08:31	12/12/17 22:53	1
d5-NEtFOSAA	115		25 - 150	12/12/17 08:31	12/12/17 22:53	1

Lab Sample ID: LCS 320-199446/2-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	40.0	38.2		ng/L		96	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	39.2		ng/L		98	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	36.9		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.4		ng/L		101	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	37.4		ng/L		93	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	32.3		ng/L		81	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	41.4		ng/L		103	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	43.4		ng/L		109	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	37.0		ng/L		92	63 - 123

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Lab Sample ID: LCS 320-199446/2-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	35.4	35.4		ng/L		100	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.1		ng/L		97	77 - 137
Perfluorooctanesulfonic acid (PFOS)	37.1	37.0		ng/L		100	74 - 134
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	37.9		ng/L		95	77 - 137
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	36.3		ng/L		91	79 - 139

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2 PFHxA	108		25 - 150
13C4-PFHpA	112		25 - 150
13C4 PFOA	108		25 - 150
13C5 PFNA	113		25 - 150
13C2 PFDA	116		25 - 150
13C2 PFUnA	109		25 - 150
13C2 PFDoA	97		25 - 150
13C2-PFTeDA	114		25 - 150
13C3-PFBS	112		25 - 150
18O2 PFHxS	108		25 - 150
13C4 PFOS	109		25 - 150
d3-NMeFOSAA	110		25 - 150
d5-NEtFOSAA	112		25 - 150

Lab Sample ID: LCSD 320-199446/3-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorohexanoic acid (PFHxA)	40.0	39.6		ng/L		99	76 - 136	3	30
Perfluoroheptanoic acid (PFHpA)	40.0	41.8		ng/L		105	78 - 138	6	30
Perfluorooctanoic acid (PFOA)	40.0	37.6		ng/L		94	70 - 130	2	30
Perfluorononanoic acid (PFNA)	40.0	41.3		ng/L		103	77 - 137	2	30
Perfluorodecanoic acid (PFDA)	40.0	40.8		ng/L		102	74 - 134	9	30
Perfluoroundecanoic acid (PFUnA)	40.0	35.4		ng/L		89	68 - 128	9	30
Perfluorododecanoic acid (PFDoA)	40.0	39.7		ng/L		99	72 - 132	4	30
Perfluorotridecanoic Acid (PFTriA)	40.0	43.2		ng/L		108	56 - 163	1	30
Perfluorotetradecanoic acid (PFTeA)	40.0	40.3		ng/L		101	63 - 123	9	30
Perfluorobutanesulfonic acid (PFBS)	35.4	37.6		ng/L		106	79 - 139	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.9		ng/L		96	77 - 137	1	30
Perfluorooctanesulfonic acid (PFOS)	37.1	37.1		ng/L		100	74 - 134	0	30

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Lab Sample ID: LCSD 320-199446/3-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	37.4		ng/L		94	77 - 137	1	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	37.2		ng/L		93	79 - 139	2	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFHxA	110		25 - 150
13C4-PFHpA	106		25 - 150
13C4 PFOA	105		25 - 150
13C5 PFNA	113		25 - 150
13C2 PFDA	113		25 - 150
13C2 PFUnA	105		25 - 150
13C2 PFDoA	102		25 - 150
13C2-PFTeDA	108		25 - 150
13C3-PFBS	109		25 - 150
18O2 PFHxS	110		25 - 150
13C4 PFOS	109		25 - 150
d3-NMeFOSAA	115		25 - 150
d5-NEtFOSAA	114		25 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-391355/1-A

Matrix: Water

Analysis Batch: 391986

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 391355

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		12/11/17 09:25	12/13/17 17:11	1
Antimony	ND		0.020	0.0068	mg/L		12/11/17 09:25	12/13/17 17:11	1
Arsenic	ND		0.015	0.0056	mg/L		12/11/17 09:25	12/13/17 17:11	1
Barium	ND		0.0020	0.00070	mg/L		12/11/17 09:25	12/13/17 17:11	1
Beryllium	ND		0.0020	0.00030	mg/L		12/11/17 09:25	12/13/17 17:11	1
Boron	ND		0.020	0.0040	mg/L		12/11/17 09:25	12/13/17 17:11	1
Cadmium	ND		0.0020	0.00050	mg/L		12/11/17 09:25	12/13/17 17:11	1
Calcium	ND		0.50	0.10	mg/L		12/11/17 09:25	12/13/17 17:11	1
Chromium	ND		0.0040	0.0010	mg/L		12/11/17 09:25	12/13/17 17:11	1
Cobalt	ND		0.0040	0.00063	mg/L		12/11/17 09:25	12/13/17 17:11	1
Copper	ND		0.010	0.0016	mg/L		12/11/17 09:25	12/13/17 17:11	1
Iron	ND		0.050	0.019	mg/L		12/11/17 09:25	12/13/17 17:11	1
Lead	ND		0.010	0.0030	mg/L		12/11/17 09:25	12/13/17 17:11	1
Magnesium	ND		0.20	0.043	mg/L		12/11/17 09:25	12/13/17 17:11	1
Manganese	0.000400	J	0.0030	0.00040	mg/L		12/11/17 09:25	12/13/17 17:11	1
Nickel	ND		0.010	0.0013	mg/L		12/11/17 09:25	12/13/17 17:11	1
Potassium	0.132	J	0.50	0.10	mg/L		12/11/17 09:25	12/13/17 17:11	1
Selenium	ND		0.025	0.0087	mg/L		12/11/17 09:25	12/13/17 17:11	1
Silver	ND		0.0060	0.0017	mg/L		12/11/17 09:25	12/13/17 17:11	1
Sodium	ND		1.0	0.32	mg/L		12/11/17 09:25	12/13/17 17:11	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

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

Lab Sample ID: MB 480-391355/1-A

Matrix: Water

Analysis Batch: 391986

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 391355

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.020	0.010	mg/L		12/11/17 09:25	12/13/17 17:11	1
Vanadium	ND		0.0050	0.0015	mg/L		12/11/17 09:25	12/13/17 17:11	1
Zinc	ND		0.010	0.0015	mg/L		12/11/17 09:25	12/13/17 17:11	1

Lab Sample ID: LCS 480-391355/2-A

Matrix: Water

Analysis Batch: 391986

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 391355

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	10.0	9.83		mg/L		98	80 - 120
Antimony	0.200	0.197		mg/L		99	80 - 120
Arsenic	0.200	0.198		mg/L		99	80 - 120
Barium	0.200	0.199		mg/L		99	80 - 120
Beryllium	0.200	0.204		mg/L		102	80 - 120
Boron	0.200	0.198		mg/L		99	80 - 120
Cadmium	0.200	0.193		mg/L		97	80 - 120
Calcium	10.0	9.81		mg/L		98	80 - 120
Chromium	0.200	0.191		mg/L		95	80 - 120
Cobalt	0.200	0.189		mg/L		94	80 - 120
Copper	0.200	0.197		mg/L		99	80 - 120
Iron	10.0	9.86		mg/L		99	80 - 120
Lead	0.200	0.198		mg/L		99	80 - 120
Magnesium	10.0	10.13		mg/L		101	80 - 120
Manganese	0.200	0.213		mg/L		107	80 - 120
Nickel	0.200	0.200		mg/L		100	80 - 120
Potassium	10.0	9.96		mg/L		100	80 - 120
Selenium	0.200	0.200		mg/L		100	80 - 120
Silver	0.0500	0.0483		mg/L		97	80 - 120
Sodium	10.0	9.70		mg/L		97	80 - 120
Thallium	0.200	0.192		mg/L		96	80 - 120
Vanadium	0.200	0.197		mg/L		98	80 - 120
Zinc	0.200	0.197		mg/L		98	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-391642/1-A

Matrix: Water

Analysis Batch: 391723

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 391642

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/17 12:30	12/12/17 15:08	1

Lab Sample ID: LCS 480-391642/2-A

Matrix: Water

Analysis Batch: 391723

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 391642

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00667	0.00735		mg/L		110	80 - 120

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-391872/4

Matrix: Water

Analysis Batch: 391872

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			12/13/17 13:53	1
Chloride	ND		0.50	0.28	mg/L			12/13/17 13:53	1
Sulfate	ND		2.0	0.35	mg/L			12/13/17 13:53	1

Lab Sample ID: LCS 480-391872/3

Matrix: Water

Analysis Batch: 391872

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.11		mg/L		102	90 - 110
Chloride	50.0	52.17		mg/L		104	90 - 110
Sulfate	50.0	53.16		mg/L		106	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-391707/51

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/12/17 15:26	1

Lab Sample ID: MB 480-391707/99

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/12/17 16:08	1

Lab Sample ID: LCS 480-391707/100

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.988		mg/L		99	90 - 110

Lab Sample ID: LCS 480-391707/52

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.993		mg/L		99	90 - 110

Lab Sample ID: 480-128629-3 DU

Matrix: Water

Analysis Batch: 391707

Client Sample ID: 8-WAY-001-001-03

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	ND		ND		mg/L		NC	20

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: 410.4 - COD

Lab Sample ID: MB 480-391261/27

Matrix: Water

Analysis Batch: 391261

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/08/17 16:30	1

Lab Sample ID: MB 480-391261/51

Matrix: Water

Analysis Batch: 391261

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/08/17 16:30	1

Lab Sample ID: LCS 480-391261/28

Matrix: Water

Analysis Batch: 391261

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.05		mg/L		104	90 - 110

Lab Sample ID: LCS 480-391261/52

Matrix: Water

Analysis Batch: 391261

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	22.77		mg/L		91	90 - 110

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

Lab Sample ID: MB 480-391682/28

Matrix: Water

Analysis Batch: 391682

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.541	J	1.0	0.43	mg/L			12/11/17 22:29	1

Lab Sample ID: LCS 480-391682/29

Matrix: Water

Analysis Batch: 391682

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	62.50		mg/L		104	90 - 110

Lab Sample ID: 480-128629-1 MS

Matrix: Water

Analysis Batch: 391682

Client Sample ID: 8-WAY-001-001-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.5	B	20.0	22.25		mg/L		104	54 - 131

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-391754/30
Matrix: Water
Analysis Batch: 391754

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L			12/12/17 16:16	1

Lab Sample ID: MB 480-391754/7
Matrix: Water
Analysis Batch: 391754

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L			12/12/17 13:55	1

Lab Sample ID: LCS 480-391754/31
Matrix: Water
Analysis Batch: 391754

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	94.14		mg/L		94	90 - 110

Lab Sample ID: LCS 480-391754/8
Matrix: Water
Analysis Batch: 391754

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	94.98		mg/L		95	90 - 110

Lab Sample ID: 480-128629-1 MS
Matrix: Water
Analysis Batch: 391754

Client Sample ID: 8-WAY-001-001-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	344	F1	100	375.4	F1	mg/L		32	60 - 140

Method: SM 2340C - Hardness, Total (mg/l as CaCO3)

Lab Sample ID: MB 480-391529/27
Matrix: Water
Analysis Batch: 391529

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			12/11/17 20:00	1

Lab Sample ID: MB 480-391529/3
Matrix: Water
Analysis Batch: 391529

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			12/11/17 20:00	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method: SM 2340C - Hardness, Total (mg/l as CaCO3) (Continued)

Lab Sample ID: LCS 480-391529/28

Matrix: Water

Analysis Batch: 391529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	213	212.0		mg/L		100	90 - 110

Lab Sample ID: LCS 480-391529/4

Matrix: Water

Analysis Batch: 391529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	213	208.0		mg/L		98	90 - 110

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

Lab Sample ID: MB 480-391340/1

Matrix: Water

Analysis Batch: 391340

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6.00	J	10.0	4.0	mg/L			12/10/17 23:37	1

Lab Sample ID: LCS 480-391340/2

Matrix: Water

Analysis Batch: 391340

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	514	462.0		mg/L		90	85 - 115

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

GC/MS VOA

Analysis Batch: 392196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	8260C	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	8260C	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	8260C	
480-128629-6	8-WAY-001-001-06	Total/NA	Water	8260C	
MB 480-392196/6	Method Blank	Total/NA	Water	8260C	
LCS 480-392196/27	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 483653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	3510C	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	3510C	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	3510C	
MB 460-483653/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-483653/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 460-483653/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-483653/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 483751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	8270D SIM	483653
480-128629-2	8-WAY-001-001-02	Total/NA	Water	8270D SIM	483653
480-128629-3	8-WAY-001-001-03	Total/NA	Water	8270D SIM	483653
MB 460-483653/1-A	Method Blank	Total/NA	Water	8270D SIM	483653
LCS 460-483653/4-A	Lab Control Sample	Total/NA	Water	8270D SIM	483653
LCSD 460-483653/5-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	483653

Analysis Batch: 483880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	8270D	483653
480-128629-2	8-WAY-001-001-02	Total/NA	Water	8270D	483653
480-128629-3	8-WAY-001-001-03	Total/NA	Water	8270D	483653
MB 460-483653/1-A	Method Blank	Total/NA	Water	8270D	483653
LCS 460-483653/2-A	Lab Control Sample	Total/NA	Water	8270D	483653

LCMS

Prep Batch: 199446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	3535	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	3535	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	3535	
480-128629-4	8-WAY-001-001-04	Total/NA	Water	3535	
480-128629-5	8-WAY-001-001-05	Total/NA	Water	3535	
MB 320-199446/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-199446/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-199446/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

LCMS (Continued)

Analysis Batch: 199649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	537 (modified)	199446
480-128629-2	8-WAY-001-001-02	Total/NA	Water	537 (modified)	199446
480-128629-3	8-WAY-001-001-03	Total/NA	Water	537 (modified)	199446
480-128629-4	8-WAY-001-001-04	Total/NA	Water	537 (modified)	199446
480-128629-5	8-WAY-001-001-05	Total/NA	Water	537 (modified)	199446
MB 320-199446/1-A	Method Blank	Total/NA	Water	537 (modified)	199446
LCS 320-199446/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	199446
LCSD 320-199446/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	199446

Metals

Prep Batch: 391355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	3005A	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	3005A	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	3005A	
MB 480-391355/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-391355/2-A	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 391642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	7470A	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	7470A	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	7470A	
MB 480-391642/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-391642/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 391723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	7470A	391642
480-128629-2	8-WAY-001-001-02	Total/NA	Water	7470A	391642
480-128629-3	8-WAY-001-001-03	Total/NA	Water	7470A	391642
MB 480-391642/1-A	Method Blank	Total/NA	Water	7470A	391642
LCS 480-391642/2-A	Lab Control Sample	Total/NA	Water	7470A	391642

Analysis Batch: 391986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	6010C	391355
480-128629-2	8-WAY-001-001-02	Total/NA	Water	6010C	391355
480-128629-3	8-WAY-001-001-03	Total/NA	Water	6010C	391355
MB 480-391355/1-A	Method Blank	Total/NA	Water	6010C	391355
LCS 480-391355/2-A	Lab Control Sample	Total/NA	Water	6010C	391355

General Chemistry

Analysis Batch: 391261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	410.4	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	410.4	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	410.4	

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

General Chemistry (Continued)

Analysis Batch: 391261 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-391261/27	Method Blank	Total/NA	Water	410.4	
MB 480-391261/51	Method Blank	Total/NA	Water	410.4	
LCS 480-391261/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-391261/52	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 391340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	SM 2540C	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	SM 2540C	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	SM 2540C	
MB 480-391340/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-391340/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 391529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	SM 2340C	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	SM 2340C	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	SM 2340C	
MB 480-391529/27	Method Blank	Total/NA	Water	SM 2340C	
MB 480-391529/3	Method Blank	Total/NA	Water	SM 2340C	
LCS 480-391529/28	Lab Control Sample	Total/NA	Water	SM 2340C	
LCS 480-391529/4	Lab Control Sample	Total/NA	Water	SM 2340C	

Analysis Batch: 391682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	9060A	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	9060A	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	9060A	
MB 480-391682/28	Method Blank	Total/NA	Water	9060A	
LCS 480-391682/29	Lab Control Sample	Total/NA	Water	9060A	
480-128629-1 MS	8-WAY-001-001-01	Total/NA	Water	9060A	

Analysis Batch: 391707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	350.1	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	350.1	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	350.1	
MB 480-391707/51	Method Blank	Total/NA	Water	350.1	
MB 480-391707/99	Method Blank	Total/NA	Water	350.1	
LCS 480-391707/100	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-391707/52	Lab Control Sample	Total/NA	Water	350.1	
480-128629-3 DU	8-WAY-001-001-03	Total/NA	Water	350.1	

Analysis Batch: 391754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	SM 2320B	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	SM 2320B	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	SM 2320B	
MB 480-391754/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-391754/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-391754/31	Lab Control Sample	Total/NA	Water	SM 2320B	

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

General Chemistry (Continued)

Analysis Batch: 391754 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-391754/8	Lab Control Sample	Total/NA	Water	SM 2320B	
480-128629-1 MS	8-WAY-001-001-01	Total/NA	Water	SM 2320B	

Analysis Batch: 391872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128629-1	8-WAY-001-001-01	Total/NA	Water	300.0	
480-128629-2	8-WAY-001-001-02	Total/NA	Water	300.0	
480-128629-3	8-WAY-001-001-03	Total/NA	Water	300.0	
MB 480-391872/4	Method Blank	Total/NA	Water	300.0	
LCS 480-391872/3	Lab Control Sample	Total/NA	Water	300.0	

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-01

Date Collected: 12/07/17 10:00

Date Received: 12/07/17 15:50

Lab Sample ID: 480-128629-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	392196	12/15/17 12:46	RJF	TAL BUF
Total/NA	Prep	3510C			483653	12/12/17 15:21	RAR	TAL EDI
Total/NA	Analysis	8270D		1	483880	12/13/17 18:06	DAN	TAL EDI
Total/NA	Prep	3510C			483653	12/12/17 15:21	RAR	TAL EDI
Total/NA	Analysis	8270D SIM		1	483751	12/13/17 03:44	SK	TAL EDI
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/12/17 23:17	ABH	TAL SAC
Total/NA	Prep	3005A			391355	12/11/17 09:25	EMB	TAL BUF
Total/NA	Analysis	6010C		1	391986	12/13/17 17:58	LMH	TAL BUF
Total/NA	Prep	7470A			391642	12/12/17 12:30	EMB	TAL BUF
Total/NA	Analysis	7470A		1	391723	12/12/17 15:47	BMB	TAL BUF
Total/NA	Analysis	300.0		2	391872	12/13/17 14:08	RJS	TAL BUF
Total/NA	Analysis	350.1		1	391707	12/12/17 15:29	SSS	TAL BUF
Total/NA	Analysis	410.4		1	391261	12/08/17 16:30	DCB	TAL BUF
Total/NA	Analysis	9060A		1	391682	12/12/17 01:15	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	391754	12/12/17 18:23	ALZ	TAL BUF
Total/NA	Analysis	SM 2340C		1	391529	12/11/17 20:00	DCB	TAL BUF
Total/NA	Analysis	SM 2540C		1	391340	12/10/17 23:37	KMB	TAL BUF

Client Sample ID: 8-WAY-001-001-02

Date Collected: 12/07/17 11:20

Date Received: 12/07/17 15:50

Lab Sample ID: 480-128629-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	392196	12/15/17 13:15	RJF	TAL BUF
Total/NA	Prep	3510C			483653	12/12/17 15:21	RAR	TAL EDI
Total/NA	Analysis	8270D		1	483880	12/13/17 18:27	DAN	TAL EDI
Total/NA	Prep	3510C			483653	12/12/17 15:21	RAR	TAL EDI
Total/NA	Analysis	8270D SIM		1	483751	12/13/17 04:11	SK	TAL EDI
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/12/17 23:25	ABH	TAL SAC
Total/NA	Prep	3005A			391355	12/11/17 09:25	EMB	TAL BUF
Total/NA	Analysis	6010C		1	391986	12/13/17 18:02	LMH	TAL BUF
Total/NA	Prep	7470A			391642	12/12/17 12:30	EMB	TAL BUF
Total/NA	Analysis	7470A		1	391723	12/12/17 15:52	BMB	TAL BUF
Total/NA	Analysis	300.0		2	391872	12/13/17 14:22	RJS	TAL BUF
Total/NA	Analysis	350.1		1	391707	12/12/17 15:30	SSS	TAL BUF
Total/NA	Analysis	410.4		1	391261	12/08/17 16:30	DCB	TAL BUF
Total/NA	Analysis	9060A		1	391682	12/12/17 02:10	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	391754	12/12/17 18:38	ALZ	TAL BUF
Total/NA	Analysis	SM 2340C		1	391529	12/11/17 20:00	DCB	TAL BUF
Total/NA	Analysis	SM 2540C		1	391340	12/10/17 23:37	KMB	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Client Sample ID: 8-WAY-001-001-03

Date Collected: 12/07/17 13:00

Date Received: 12/07/17 15:50

Lab Sample ID: 480-128629-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	392196	12/15/17 13:42	RJF	TAL BUF
Total/NA	Prep	3510C			483653	12/12/17 15:21	RAR	TAL EDI
Total/NA	Analysis	8270D		1	483880	12/13/17 18:47	DAN	TAL EDI
Total/NA	Prep	3510C			483653	12/12/17 15:21	RAR	TAL EDI
Total/NA	Analysis	8270D SIM		1	483751	12/13/17 04:38	SK	TAL EDI
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/12/17 23:33	ABH	TAL SAC
Total/NA	Prep	3005A			391355	12/11/17 09:25	EMB	TAL BUF
Total/NA	Analysis	6010C		1	391986	12/13/17 18:05	LMH	TAL BUF
Total/NA	Prep	7470A			391642	12/12/17 12:30	EMB	TAL BUF
Total/NA	Analysis	7470A		1	391723	12/12/17 15:54	BMB	TAL BUF
Total/NA	Analysis	300.0		2	391872	12/13/17 14:37	RJS	TAL BUF
Total/NA	Analysis	350.1		1	391707	12/12/17 15:31	SSS	TAL BUF
Total/NA	Analysis	410.4		1	391261	12/08/17 16:30	DCB	TAL BUF
Total/NA	Analysis	9060A		1	391682	12/12/17 02:37	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	391754	12/12/17 18:45	ALZ	TAL BUF
Total/NA	Analysis	SM 2340C		1	391529	12/11/17 20:00	DCB	TAL BUF
Total/NA	Analysis	SM 2540C		1	391340	12/10/17 23:37	KMB	TAL BUF

Client Sample ID: 8-WAY-001-001-04

Date Collected: 12/07/17 13:25

Date Received: 12/07/17 15:50

Lab Sample ID: 480-128629-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/12/17 23:41	ABH	TAL SAC

Client Sample ID: 8-WAY-001-001-05

Date Collected: 12/07/17 13:30

Date Received: 12/07/17 15:50

Lab Sample ID: 480-128629-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/12/17 23:48	ABH	TAL SAC

Client Sample ID: 8-WAY-001-001-06

Date Collected: 12/07/17 13:35

Date Received: 12/07/17 15:50

Lab Sample ID: 480-128629-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	392196	12/15/17 14:08	RJF	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Laboratory References:

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

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Accreditation/Certification Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

Laboratory: TestAmerica Edison

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11452	04-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3510C	Water	Benzo[g,h,i]perylene
8270D SIM	3510C	Water	Naphthalene

Laboratory: TestAmerica Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11666	04-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic Acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL EDI
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL EDI
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
410.4	COD	MCAWW	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 2340C	Hardness, Total (mg/l as CaCO ₃)	SM	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128629-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-128629-1	8-WAY-001-001-01	Water	12/07/17 10:00	12/07/17 15:50
480-128629-2	8-WAY-001-001-02	Water	12/07/17 11:20	12/07/17 15:50
480-128629-3	8-WAY-001-001-03	Water	12/07/17 13:00	12/07/17 15:50
480-128629-4	8-WAY-001-001-04	Water	12/07/17 13:25	12/07/17 15:50
480-128629-5	8-WAY-001-001-05	Water	12/07/17 13:30	12/07/17 15:50
480-128629-6	8-WAY-001-001-06	Water	12/07/17 13:35	12/07/17 15:50

Client Information (Sub Contract Lab)				Carrier Tracking No(s)	COC No.				
Client Contact: Shipping/Receiving Company: TestAmerica Laboratories, Inc.				480-39502.1	480-39502.1				
Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605				State of Origin: New York	Page 1 of 1				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)				Accreditations Required (See note): NELAP - New York	Job #: 480-128629-1				
Email: Project Name: NYSDEC ILI				Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)					
Site: Project #: 48016945				Other:					
SSOW#:				Total Number of Containers					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC, IDA/3536, PFC (MOD) PFA, Standard List	Analysis Requested	Special Instructions/Note:
8-WAY-001-001-01 (480-128629-1)	12/7/17	10:00 Eastern		Water			X		2
8-WAY-001-001-02 (480-128629-2)	12/7/17	11:20 Eastern		Water			X		2
8-WAY-001-001-03 (480-128629-3)	12/7/17	13:00 Eastern		Water			X		2
8-WAY-001-001-04 (480-128629-4)	12/7/17	13:25 Eastern		Water			X		2
8-WAY-001-001-05 (480-128629-5)	12/7/17	13:30 Eastern		Water			X		2

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed	Deliverable Requested: I, II, III, IV, Other (specify)	Return To Client	Archive For
Primary Deliverable Rank: 2			Months

Empty Kit Relinquished by:		Date:	
Relinquished by: <i>[Signature]</i>	Company: <i>LAB</i>	Received by: <i>[Signature]</i>	Date/Time: 12/09/17 10:10
Relinquished by:	Company:	Received by:	Date/Time:
Relinquished by:	Company:	Received by:	Date/Time:

Custody Seals Intact:		Custody Seal No.:	
A Yes	A No	24	

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:				
Company: TestAmerica Laboratories, Inc.		Phone:	Johnson, Oriette S		480-39498-1				
Address: 777 New Durham Road,			E-Mail: oriette.johnson@testamericainc.com	State of Origin: New York	Page: Page 1 of 1				
City: Edison		Due Date Requested: 12/19/2017	Accreditations Required (See note): NELAP - New York		Job #: 480-128629-1				
State Zip: NJ, 08817		TAT Requested (days):	Analysis Requested						
Phone: 732-549-3900(Tel) 732-549-3679(Fax)		PO #:	Field Filtered Sample (Yes or No) 8270D/3510C_LVI (MOD) PAH + 1,4DX 8270D_SIM/3510C_LVI (MOD) SIM PAH + 1,4-DX						
Email: 732-549-3900(Tel) 732-549-3679(Fax)		WC #:							
Project Name: NYSDEC ILI		Project #: 48016945							
Site:		SSOW#:							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Soil, Sediment, Air, etc.)	Field Filtered Sample (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
8-WAY-001-001-01 (480-128629-1)	12/7/17	10:00	Eastern	Water	Water	X		X	
8-WAY-001-001-02 (480-128629-2)	12/7/17	11:20	Eastern	Water	Water	X		X	
8-WAY-001-001-03 (480-128629-3)	12/7/17	13:00	Eastern	Water	Water	X		X	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.									
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months									
Empty Kit Relinquished by: Relinquished by: <i>[Signature]</i> Date/Time: 12/17/17 1000 Company: THAS Received by: <i>[Signature]</i> Date/Time: 11/10 Company: THAS Relinquished by: Date/Time: Company: Received by: Date/Time: Company:									
Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.: 65# 009351 Cooler Temperature(s) °C and Other Remarks: 0.7°C PAH									

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THE LEADER IN ENVIRONMENTAL TESTING

Sa



480-128629 Field Sheet

Tracking # 5657 0123 5280P.0

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations:
File in the job folder with the COC.

Notes:

Therm. ID: AK-2 / AK-3 / HACCP / Other _____

Ice ☒ Wet ☒ Dry _____ Other _____

Cooler Custody Seal: 009349

Sample Custody Seal: _____

Cooler ID: 31A

Temp: Observed 2.4°C

Corrected: _____

From: Temp Blank ☐ Sample ☒
NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace?	☐	☐	☒
CoC is complete w/o discrepancies?	☒	☐	☐
Samples received within holding time?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Cooler compromised/tampered with?	☐	☒	☐
Samples compromised/tampered with?	☐	☒	☐
COC and Samples w/o discrepancies?	☒	☐	☐
Sample containers have legible labels?	☒	☐	☐
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided.	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

Initials: AA Date: 12/09/17

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

W23C

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-128629-1

Login Number: 128629

List Source: TestAmerica Buffalo

List Number: 1

Creator: Janish, Carl M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	parsons
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-128629-1

Login Number: 128629

List Number: 2

Creator: Villanueva, Angelica P

List Source: TestAmerica Edison

List Creation: 12/09/17 01:45 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	CS#009351
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7°C IR#9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-128629-1

Login Number: 128629

List Number: 3

Creator: Her, David A

List Source: TestAmerica Sacramento

List Creation: 12/11/17 05:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	009349
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-128714-1

Client Project/Site: Palmyra LF

For:

Parsons Corporation

301 Plainfield Road

Suite 350

Syracuse, New York 13212

Attn: Sara Weishaupt



Authorized for release by:

12/27/2017 7:26:18 AM

Orlette Johnson, Senior Project Manager

(484)685-0864

orlette.johnson@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
*	Isotope Dilution analyte is outside acceptance limits.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Job ID: 480-128714-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-128714-1

Receipt

The samples were received on 12/9/2017 1:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

Receipt Exceptions

Volume was not received for PAH SIM+1,4-dioxane, Metals, Mercury, Ammonia, and COD for sample: 8-WAY-001-002-02 (480-128714-2); per client the samples will be submitted to the lab for analysis at a later date.

Samples with head space are 8-WAY-001-002-01) (8-WAY-001-002-02) (8-WAY-001-002-05 A and B has head space) and 8-WAY-001-002-02, 8-WAY-001-002-01 (480-128714-1), 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-05 (480-128714-5)

GC/MS VOA

Method(s) 8260C: The following volatile samples was analyzed with significant headspace in the sample Container(s): 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-05 (480-128714-5). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 8260C: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: 8-WAY-001-002-01 (480-128714-1), 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-03 (480-128714-3).

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

GC/MS Semi VOA

Method(s) 8270D SIM: The continuing calibration verification (CCV) analyzed in batch 460-484085 was outside the method criteria for the following analyte(s): Benzo[b]fluoranthene and Benzo[g,h,i]perylene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 460-484191 recovered above the upper control limit for Indeno[1,2,3-cd]pyrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

HPLC/IC

Method(s) 300.0: The following samples was diluted to bring the concentration of target analytes within the calibration range: 8-WAY-001-002-01 (480-128714-1), 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-03 (480-128714-3). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The closing continuing calibration verification (CCVC) associated with batch 480-392073 recovered above the upper control limit for Sulfate. The sample 8-WAY-001-002-01 (480-128714-1) associated with this CCV is non-detect for the affected analytes; therefore, the data have been reported.

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

Metals

Method(s) 3005A: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: 8-WAY-001-002-03 (480-128714-3). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 7470A: Due to interference with the sample matrix, the standard mercury preparation procedure was inadequate for the following samples(s): 8-WAY-001-002-01 (480-128714-1) and 8-WAY-001-002-03 (480-128714-3). This was demonstrated when the potassium permanganate reagent was added and the characteristic purple color faded rapidly. This loss of color indicates oxidizing

Case Narrative

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Job ID: 480-128714-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

conditions were not maintained. The sample(s) was prepared and analyzed at a <1:5> dilution, which maintained the purple color during digestion.

Method(s) 6010C: The following sample was diluted due to the presence of Total Iron which interferes with Cadmium, Cobalt, Chromium, Copper Manganese, Nickel, Lead, Antimony, and Vanadium: 8-WAY-001-002-01 (480-128714-1). Elevated reporting limits (RLs) are provided.

Method(s) 6010C: The following sample was diluted for Total Silver and Thallium due to the nature of the sample matrix: 8-WAY-001-002-01 (480-128714-1). Elevated reporting limits (RLs) are provided.

Method(s) 6010C: The Low Level Continuing Calibration Verification, (CCVL 480-391778/59) associated with batch 480-391778, contained Total Zinc above the upper quality control limit. The associated samples were either ND for the affected analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples 8-WAY-001-002-03 (480-128714-3) was not performed.

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

LCMS

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for d5-NEtFOSAA in the following sample: 8-WAY-001-002-03 (480-128714-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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

General Chemistry

Method(s) SM 2320B: The following samples were received with headspace in the sample container. This sample container was received with headspace. 8-WAY-001-002-01 (480-128714-1), 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-03 (480-128714-3).

Method(s) SM 2540C: Due to the matrix, the initial volume(s) used for the following samples deviated from the standard procedure: 8-WAY-001-002-01 (480-128714-1), 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-03 (480-128714-3). The reporting limits (RLs) have been adjusted proportionately.

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

Organic Prep

Method(s) 3535: The following samples: 8-WAY-001-002-01 (480-128714-1), 8-WAY-001-002-02 (480-128714-2) and 8-WAY-001-002-03 (480-128714-3) were decanted prior to preparation due to sediment being present.

Prep batch 320-199446

Method code 3535_PFC, waters

Method(s) 3535: During the solid phase extraction process, the following samples: 8-WAY-001-002-01 (480-128714-1) and 8-WAY-001-002-02 (480-128714-2) clogged the cartridge. Therefore, a syringe was used to manually push the sample through the cartridge.

Prep batch 320-199446

Method code 3535_PFC, waters

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

VOA Prep

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

Detection Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-01

Lab Sample ID: 480-128714-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	37		25	2.7	ug/L	1			8260C	Total/NA
Chlorobenzene	0.41	J	1.0	0.18	ug/L	1			8260C	Total/NA
Acenaphthene	0.067		0.052	0.027	ug/L	1			8270D SIM	Total/NA
Anthracene	0.011	J	0.052	0.011	ug/L	1			8270D SIM	Total/NA
Benzo[b]fluoranthene	0.023	J	0.052	0.020	ug/L	1			8270D SIM	Total/NA
Chrysene	0.021	J	0.052	0.020	ug/L	1			8270D SIM	Total/NA
1,4-Dioxane	0.33	J	0.42	0.046	ug/L	1			8270D SIM	Total/NA
Fluoranthene	0.060	*	0.052	0.019	ug/L	1			8270D SIM	Total/NA
Naphthalene	0.042	J *	0.052	0.021	ug/L	1			8270D SIM	Total/NA
Pyrene	0.044	J	0.052	0.025	ug/L	1			8270D SIM	Total/NA
Perfluorohexanoic acid (PFHxA)	8.4		2.4	0.69	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	11		2.4	0.30	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	390		2.4	1.0	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.84	J	2.4	0.32	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.46	J	2.4	0.37	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.99	J	2.4	0.24	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.9	B	2.4	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	71		2.4	0.64	ng/L	1			537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	20	J	24	2.2	ng/L	1			537 (modified)	Total/NA
Aluminum	23.8		0.20	0.060	mg/L	1			6010C	Total/NA
Arsenic	0.032		0.015	0.0056	mg/L	1			6010C	Total/NA
Barium	10.2		0.010	0.0035	mg/L	5			6010C	Total/NA
Beryllium	0.0015	J	0.0020	0.00030	mg/L	1			6010C	Total/NA
Boron	0.76		0.020	0.0040	mg/L	1			6010C	Total/NA
Calcium	834		0.50	0.10	mg/L	1			6010C	Total/NA
Chromium	0.050		0.020	0.0050	mg/L	5			6010C	Total/NA
Cobalt	0.0041	J	0.020	0.0032	mg/L	5			6010C	Total/NA
Copper	0.093		0.050	0.0080	mg/L	5			6010C	Total/NA
Iron	2170		0.25	0.097	mg/L	5			6010C	Total/NA
Lead	0.29		0.050	0.015	mg/L	5			6010C	Total/NA
Magnesium	119		0.20	0.043	mg/L	1			6010C	Total/NA
Manganese	10.6		0.015	0.0020	mg/L	5			6010C	Total/NA
Nickel	0.059		0.050	0.0063	mg/L	5			6010C	Total/NA
Potassium	26.0		0.50	0.10	mg/L	1			6010C	Total/NA
Selenium	0.031		0.025	0.0087	mg/L	1			6010C	Total/NA
Sodium	185		1.0	0.32	mg/L	1			6010C	Total/NA
Vanadium	0.10		0.025	0.0075	mg/L	5			6010C	Total/NA
Zinc	1.3		0.010	0.0015	mg/L	1			6010C	Total/NA
Chloride	336		2.5	1.4	mg/L	5			300.0	Total/NA
Ammonia	9.4		0.10	0.045	mg/L	5			350.1	Total/NA
Chemical Oxygen Demand	2880		200	100	mg/L	20			410.4	Total/NA
Total Organic Carbon	5.2	B	1.0	0.43	mg/L	1			9060A	Total/NA
Alkalinity, Total	764		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Total hardness as CaCO3	1050		50.0	13.1	mg/L	1			SM 2340C	Total/NA
Total Dissolved Solids	1290		20.0	8.0	mg/L	1			SM 2540C	Total/NA

Client Sample ID: 8-WAY-001-002-02

Lab Sample ID: 480-128714-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	17	J	25	2.7	ug/L	1			8260C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-02 (Continued)

Lab Sample ID: 480-128714-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	25		2.5	0.72	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	35		2.5	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.7	J	2.5	0.34	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.3	J	2.5	0.39	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.1		2.5	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10	B	2.5	0.21	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	52		2.5	0.67	ng/L	1			537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NetFOSAA)	4.1	J	25	2.4	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	1500		12	5.3	ng/L	5			537 (modified)	Total/NA
Chloride	394		5.0	2.8	mg/L	10			300.0	Total/NA
Sulfate	163		20.0	3.5	mg/L	10			300.0	Total/NA
Total Organic Carbon	4.8	B	1.0	0.43	mg/L	1			9060A	Total/NA
Alkalinity, Total	949		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	1630		20.0	8.0	mg/L	1			SM 2540C	Total/NA

Client Sample ID: 8-WAY-001-002-03

Lab Sample ID: 480-128714-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	25		25	2.7	ug/L	1			8260C	Total/NA
Chlorobenzene	1.1		1.0	0.18	ug/L	1			8260C	Total/NA
1,4-Dichlorobenzene	1.1		1.0	0.17	ug/L	1			8260C	Total/NA
Acenaphthene	0.029	J	0.052	0.027	ug/L	1			8270D SIM	Total/NA
Benzo[b]fluoranthene	0.036	J	0.052	0.020	ug/L	1			8270D SIM	Total/NA
Chrysene	0.026	J	0.052	0.020	ug/L	1			8270D SIM	Total/NA
1,4-Dioxane	0.39	J	0.42	0.046	ug/L	1			8270D SIM	Total/NA
Fluoranthene	0.051	J *	0.052	0.019	ug/L	1			8270D SIM	Total/NA
Pyrene	0.039	J	0.052	0.025	ug/L	1			8270D SIM	Total/NA
Perfluorohexanoic acid (PFHxA)	58		2.0	0.58	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	49		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.7		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.6	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	13	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	120		2.0	0.54	ng/L	1			537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NetFOSAA)	16	J	20	1.9	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	1800		10	4.3	ng/L	5			537 (modified)	Total/NA
Aluminum	330		1.0	0.30	mg/L	1			6010C	Total/NA
Arsenic	0.64		0.075	0.028	mg/L	1			6010C	Total/NA
Barium	27.8		0.010	0.0035	mg/L	1			6010C	Total/NA
Beryllium	0.018		0.010	0.0015	mg/L	1			6010C	Total/NA
Boron	3.1		0.10	0.020	mg/L	1			6010C	Total/NA
Cadmium	0.031		0.010	0.0025	mg/L	1			6010C	Total/NA
Calcium	3220		2.5	0.50	mg/L	1			6010C	Total/NA
Chromium	0.53		0.020	0.0050	mg/L	1			6010C	Total/NA
Cobalt	0.23		0.020	0.0032	mg/L	1			6010C	Total/NA
Copper	3.2		0.050	0.0080	mg/L	1			6010C	Total/NA
Iron	2170		0.25	0.097	mg/L	1			6010C	Total/NA
Lead	2.6		0.050	0.015	mg/L	1			6010C	Total/NA
Magnesium	608		1.0	0.22	mg/L	1			6010C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Detection Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-03 (Continued)

Lab Sample ID: 480-128714-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese	47.9		0.015	0.0020	mg/L	1			6010C	Total/NA
Nickel	0.68		0.050	0.0063	mg/L	1			6010C	Total/NA
Potassium	115		2.5	0.50	mg/L	1			6010C	Total/NA
Sodium	204		5.0	1.6	mg/L	1			6010C	Total/NA
Vanadium	0.68		0.025	0.0075	mg/L	1			6010C	Total/NA
Zinc	17.3	^	0.050	0.0075	mg/L	1			6010C	Total/NA
Mercury	0.012		0.0010	0.00060	mg/L	1			7470A	Total/NA
Chloride	377		5.0	2.8	mg/L	10			300.0	Total/NA
Sulfate	107		20.0	3.5	mg/L	10			300.0	Total/NA
Ammonia	3.7		0.040	0.018	mg/L	2			350.1	Total/NA
Chemical Oxygen Demand	10400		1000	500	mg/L	100			410.4	Total/NA
Total Organic Carbon	9.2	B	1.0	0.43	mg/L	1			9060A	Total/NA
Alkalinity, Total	1120		5.0	0.79	mg/L	1			SM 2320B	Total/NA
Total hardness as CaCO3	1800		50.0	13.1	mg/L	1			SM 2340C	Total/NA
Total Dissolved Solids	1740		20.0	8.0	mg/L	1			SM 2540C	Total/NA

Client Sample ID: 8-WAY-001-002-04

Lab Sample ID: 480-128714-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.1	0.18	ng/L	1			537 (modified)	Total/NA

Client Sample ID: 8-WAY-001-002-05

Lab Sample ID: 480-128714-5

No Detections.

Client Sample ID: 8-WAY-001-002-06

Lab Sample ID: 480-128714-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-01

Lab Sample ID: 480-128714-1

Date Collected: 12/08/17 10:30

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	37		25	2.7	ug/L			12/12/17 20:51	1
Acrylonitrile	ND		10	0.50	ug/L			12/12/17 20:51	1
Benzene	ND		1.0	0.20	ug/L			12/12/17 20:51	1
Bromochloromethane	ND		1.0	0.15	ug/L			12/12/17 20:51	1
Bromodichloromethane	ND		1.0	0.17	ug/L			12/12/17 20:51	1
Bromoform	ND		1.0	0.29	ug/L			12/12/17 20:51	1
Bromomethane	ND		1.0	0.35	ug/L			12/12/17 20:51	1
2-Butanone (MEK)	ND		50	2.6	ug/L			12/12/17 20:51	1
Carbon disulfide	ND		1.0	0.22	ug/L			12/12/17 20:51	1
Carbon tetrachloride	ND		1.0	0.18	ug/L			12/12/17 20:51	1
Chlorobenzene	0.41	J	1.0	0.18	ug/L			12/12/17 20:51	1
Chloroethane	ND		1.0	0.36	ug/L			12/12/17 20:51	1
Chloroform	ND		1.0	0.23	ug/L			12/12/17 20:51	1
Chloromethane	ND		1.0	0.36	ug/L			12/12/17 20:51	1
cis-1,2-Dichloroethene	ND		1.0	0.21	ug/L			12/12/17 20:51	1
cis-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 20:51	1
Dibromochloromethane	ND		1.0	0.25	ug/L			12/12/17 20:51	1
1,2-Dibromo-3-Chloropropane	ND		10	0.94	ug/L			12/12/17 20:51	1
1,2-Dibromoethane	ND		1.0	0.21	ug/L			12/12/17 20:51	1
Dibromomethane	ND		1.0	0.45	ug/L			12/12/17 20:51	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/12/17 20:51	1
1,4-Dichlorobenzene	ND		1.0	0.17	ug/L			12/12/17 20:51	1
1,1-Dichloroethane	ND		1.0	0.24	ug/L			12/12/17 20:51	1
1,2-Dichloroethane	ND		1.0	0.20	ug/L			12/12/17 20:51	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			12/12/17 20:51	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			12/12/17 20:51	1
Ethylbenzene	ND		1.0	0.19	ug/L			12/12/17 20:51	1
2-Hexanone	ND		10	1.3	ug/L			12/12/17 20:51	1
Iodomethane	ND		10	1.5	ug/L			12/12/17 20:51	1
Methylene Chloride	ND		5.0	1.0	ug/L			12/12/17 20:51	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.81	ug/L			12/12/17 20:51	1
m,p-Xylene	ND		2.0	0.38	ug/L			12/12/17 20:51	1
o-Xylene	ND		1.0	0.20	ug/L			12/12/17 20:51	1
Styrene	ND		1.0	0.28	ug/L			12/12/17 20:51	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.15	ug/L			12/12/17 20:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.19	ug/L			12/12/17 20:51	1
Tetrachloroethene	ND		1.0	0.14	ug/L			12/12/17 20:51	1
Toluene	ND		1.0	0.17	ug/L			12/12/17 20:51	1
trans-1,4-Dichloro-2-butene	ND		5.0	0.46	ug/L			12/12/17 20:51	1
trans-1,2-Dichloroethene	ND		1.0	0.23	ug/L			12/12/17 20:51	1
trans-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 20:51	1
1,1,1-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 20:51	1
1,1,2-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 20:51	1
Trichloroethene	ND		1.0	0.20	ug/L			12/12/17 20:51	1
Trichlorofluoromethane	ND		1.0	0.21	ug/L			12/12/17 20:51	1
1,2,3-Trichloropropane	ND		1.0	0.23	ug/L			12/12/17 20:51	1
Vinyl acetate	ND		10	1.7	ug/L			12/12/17 20:51	1
Vinyl chloride	ND		1.0	0.18	ug/L			12/12/17 20:51	1
Xylenes, Total	ND		3.0	0.58	ug/L			12/12/17 20:51	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-01

Lab Sample ID: 480-128714-1

Date Collected: 12/08/17 10:30

Matrix: Water

Date Received: 12/09/17 01:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130		12/12/17 20:51	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		12/12/17 20:51	1
Dibromofluoromethane (Surr)	102		70 - 130		12/12/17 20:51	1
Toluene-d8 (Surr)	99		70 - 130		12/12/17 20:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.067		0.052	0.027	ug/L		12/13/17 09:15	12/14/17 03:59	1
Acenaphthylene	ND		0.052	0.015	ug/L		12/13/17 09:15	12/14/17 03:59	1
Anthracene	0.011	J	0.052	0.011	ug/L		12/13/17 09:15	12/14/17 03:59	1
Benzo[a]anthracene	ND		0.052	0.019	ug/L		12/13/17 09:15	12/14/17 03:59	1
Benzo[a]pyrene	ND		0.052	0.026	ug/L		12/13/17 09:15	12/14/17 03:59	1
Benzo[b]fluoranthene	0.023	J	0.052	0.020	ug/L		12/13/17 09:15	12/14/17 03:59	1
Benzo[g,h,i]perylene	ND		0.052	0.031	ug/L		12/13/17 09:15	12/14/17 03:59	1
Benzo[k]fluoranthene	ND *		0.052	0.029	ug/L		12/13/17 09:15	12/14/17 03:59	1
Chrysene	0.021	J	0.052	0.020	ug/L		12/13/17 09:15	12/14/17 03:59	1
Dibenz(a,h)anthracene	ND		0.052	0.039	ug/L		12/13/17 09:15	12/14/17 03:59	1
1,4-Dioxane	0.33	J	0.42	0.046	ug/L		12/13/17 09:15	12/14/17 03:59	1
Fluoranthene	0.060	*	0.052	0.019	ug/L		12/13/17 09:15	12/14/17 03:59	1
Fluorene	ND		0.052	0.017	ug/L		12/13/17 09:15	12/14/17 03:59	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.022	ug/L		12/13/17 09:15	12/14/17 03:59	1
Naphthalene	0.042	J *	0.052	0.021	ug/L		12/13/17 09:15	12/14/17 03:59	1
Phenanthrene	ND		0.052	0.024	ug/L		12/13/17 09:15	12/14/17 03:59	1
Pyrene	0.044	J	0.052	0.025	ug/L		12/13/17 09:15	12/14/17 03:59	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		45 - 107	12/13/17 09:15	12/14/17 13:14	1
2-Fluorophenol (Surr)	34		25 - 58	12/13/17 09:15	12/14/17 13:14	1
Nitrobenzene-d5 (Surr)	77		51 - 108	12/13/17 09:15	12/14/17 13:14	1
Phenol-d5 (Surr)	21		14 - 39	12/13/17 09:15	12/14/17 13:14	1
Terphenyl-d14 (Surr)	89		40 - 148	12/13/17 09:15	12/14/17 13:14	1
2,4,6-Tribromophenol (Surr)	106		26 - 139	12/13/17 09:15	12/14/17 13:14	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	8.4		2.4	0.69	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluoroheptanoic acid (PFHpA)	11		2.4	0.30	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorooctanoic acid (PFOA)	390		2.4	1.0	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorononanoic acid (PFNA)	0.84	J	2.4	0.32	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorodecanoic acid (PFDA)	0.46	J	2.4	0.37	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluoroundecanoic acid (PFUnA)	ND		2.4	1.3	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorododecanoic acid (PFDoA)	ND		2.4	0.65	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.4	1.5	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.4	0.34	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorobutanesulfonic acid (PFBS)	0.99	J	2.4	0.24	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorohexanesulfonic acid (PFHxS)	5.9	B	2.4	0.20	ng/L		12/12/17 08:31	12/12/17 23:56	1
Perfluorooctanesulfonic acid (PFOS)	71		2.4	0.64	ng/L		12/12/17 08:31	12/12/17 23:56	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-01

Lab Sample ID: 480-128714-1

Date Collected: 12/08/17 10:30

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		24	3.7	ng/L		12/12/17 08:31	12/12/17 23:56	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	20	J	24	2.2	ng/L		12/12/17 08:31	12/12/17 23:56	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	89		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C4-PFHpA	99		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C4 PFOA	107		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C5 PFNA	114		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C2 PFDA	121		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C2 PFUnA	107		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C2 PFDoA	101		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C2-PFTeDA	101		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C3-PFBS	104		25 - 150				12/12/17 08:31	12/12/17 23:56	1
18O2 PFHxS	107		25 - 150				12/12/17 08:31	12/12/17 23:56	1
13C4 PFOS	108		25 - 150				12/12/17 08:31	12/12/17 23:56	1
d3-NMeFOSAA	143		25 - 150				12/12/17 08:31	12/12/17 23:56	1
d5-NEtFOSAA	127		25 - 150				12/12/17 08:31	12/12/17 23:56	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	23.8		0.20	0.060	mg/L		12/12/17 08:25	12/12/17 17:58	1
Antimony	ND		0.10	0.034	mg/L		12/12/17 08:25	12/12/17 18:02	5
Arsenic	0.032		0.015	0.0056	mg/L		12/12/17 08:25	12/12/17 17:58	1
Barium	10.2		0.010	0.0035	mg/L		12/12/17 08:25	12/12/17 18:02	5
Beryllium	0.0015	J	0.0020	0.00030	mg/L		12/12/17 08:25	12/12/17 17:58	1
Boron	0.76		0.020	0.0040	mg/L		12/12/17 08:25	12/12/17 17:58	1
Cadmium	ND		0.010	0.0025	mg/L		12/12/17 08:25	12/12/17 18:02	5
Calcium	834		0.50	0.10	mg/L		12/12/17 08:25	12/12/17 17:58	1
Chromium	0.050		0.020	0.0050	mg/L		12/12/17 08:25	12/12/17 18:02	5
Cobalt	0.0041	J	0.020	0.0032	mg/L		12/12/17 08:25	12/12/17 18:02	5
Copper	0.093		0.050	0.0080	mg/L		12/12/17 08:25	12/12/17 18:02	5
Iron	2170		0.25	0.097	mg/L		12/12/17 08:25	12/12/17 18:02	5
Lead	0.29		0.050	0.015	mg/L		12/12/17 08:25	12/12/17 18:02	5
Magnesium	119		0.20	0.043	mg/L		12/12/17 08:25	12/12/17 17:58	1
Manganese	10.6		0.015	0.0020	mg/L		12/12/17 08:25	12/12/17 18:02	5
Nickel	0.059		0.050	0.0063	mg/L		12/12/17 08:25	12/12/17 18:02	5
Potassium	26.0		0.50	0.10	mg/L		12/12/17 08:25	12/12/17 17:58	1
Selenium	0.031		0.025	0.0087	mg/L		12/12/17 08:25	12/12/17 17:58	1
Silver	ND		0.030	0.0085	mg/L		12/12/17 08:25	12/12/17 18:02	5
Sodium	185		1.0	0.32	mg/L		12/12/17 08:25	12/12/17 17:58	1
Thallium	ND		0.10	0.051	mg/L		12/12/17 08:25	12/12/17 18:02	5
Vanadium	0.10		0.025	0.0075	mg/L		12/12/17 08:25	12/12/17 18:02	5
Zinc	1.3		0.010	0.0015	mg/L		12/12/17 08:25	12/12/17 17:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0010	0.00060	mg/L		12/13/17 13:30	12/13/17 17:59	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-01

Lab Sample ID: 480-128714-1

Date Collected: 12/08/17 10:30

Matrix: Water

Date Received: 12/09/17 01:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		1.0	0.37	mg/L			12/14/17 23:37	5
Chloride	336		2.5	1.4	mg/L			12/14/17 23:37	5
Sulfate	ND	^	10.0	1.7	mg/L			12/14/17 23:37	5
Ammonia	9.4		0.10	0.045	mg/L			12/14/17 15:29	5
Chemical Oxygen Demand	2880		200	100	mg/L			12/20/17 19:05	20
Total Organic Carbon	5.2	B	1.0	0.43	mg/L			12/12/17 03:15	1
Alkalinity, Total	764		5.0	0.79	mg/L			12/13/17 11:46	1
Total hardness as CaCO3	1050		50.0	13.1	mg/L			12/18/17 17:45	1
Total Dissolved Solids	1290		20.0	8.0	mg/L			12/11/17 18:44	1

Client Sample ID: 8-WAY-001-002-02

Lab Sample ID: 480-128714-2

Date Collected: 12/08/17 11:00

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	17	J	25	2.7	ug/L			12/12/17 21:18	1
Acrylonitrile	ND		10	0.50	ug/L			12/12/17 21:18	1
Benzene	ND		1.0	0.20	ug/L			12/12/17 21:18	1
Bromochloromethane	ND		1.0	0.15	ug/L			12/12/17 21:18	1
Bromodichloromethane	ND		1.0	0.17	ug/L			12/12/17 21:18	1
Bromoform	ND		1.0	0.29	ug/L			12/12/17 21:18	1
Bromomethane	ND		1.0	0.35	ug/L			12/12/17 21:18	1
2-Butanone (MEK)	ND		50	2.6	ug/L			12/12/17 21:18	1
Carbon disulfide	ND		1.0	0.22	ug/L			12/12/17 21:18	1
Carbon tetrachloride	ND		1.0	0.18	ug/L			12/12/17 21:18	1
Chlorobenzene	ND		1.0	0.18	ug/L			12/12/17 21:18	1
Chloroethane	ND		1.0	0.36	ug/L			12/12/17 21:18	1
Chloroform	ND		1.0	0.23	ug/L			12/12/17 21:18	1
Chloromethane	ND		1.0	0.36	ug/L			12/12/17 21:18	1
cis-1,2-Dichloroethene	ND		1.0	0.21	ug/L			12/12/17 21:18	1
cis-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 21:18	1
Dibromochloromethane	ND		1.0	0.25	ug/L			12/12/17 21:18	1
1,2-Dibromo-3-Chloropropane	ND		10	0.94	ug/L			12/12/17 21:18	1
1,2-Dibromoethane	ND		1.0	0.21	ug/L			12/12/17 21:18	1
Dibromomethane	ND		1.0	0.45	ug/L			12/12/17 21:18	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/12/17 21:18	1
1,4-Dichlorobenzene	ND		1.0	0.17	ug/L			12/12/17 21:18	1
1,1-Dichloroethane	ND		1.0	0.24	ug/L			12/12/17 21:18	1
1,2-Dichloroethane	ND		1.0	0.20	ug/L			12/12/17 21:18	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			12/12/17 21:18	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			12/12/17 21:18	1
Ethylbenzene	ND		1.0	0.19	ug/L			12/12/17 21:18	1
2-Hexanone	ND		10	1.3	ug/L			12/12/17 21:18	1
Iodomethane	ND		10	1.5	ug/L			12/12/17 21:18	1
Methylene Chloride	ND		5.0	1.0	ug/L			12/12/17 21:18	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.81	ug/L			12/12/17 21:18	1
m,p-Xylene	ND		2.0	0.38	ug/L			12/12/17 21:18	1
o-Xylene	ND		1.0	0.20	ug/L			12/12/17 21:18	1
Styrene	ND		1.0	0.28	ug/L			12/12/17 21:18	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-02

Lab Sample ID: 480-128714-2

Date Collected: 12/08/17 11:00

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.15	ug/L			12/12/17 21:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.19	ug/L			12/12/17 21:18	1
Tetrachloroethene	ND		1.0	0.14	ug/L			12/12/17 21:18	1
Toluene	ND		1.0	0.17	ug/L			12/12/17 21:18	1
trans-1,4-Dichloro-2-butene	ND		5.0	0.46	ug/L			12/12/17 21:18	1
trans-1,2-Dichloroethene	ND		1.0	0.23	ug/L			12/12/17 21:18	1
trans-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 21:18	1
1,1,1-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 21:18	1
1,1,2-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 21:18	1
Trichloroethene	ND		1.0	0.20	ug/L			12/12/17 21:18	1
Trichlorofluoromethane	ND		1.0	0.21	ug/L			12/12/17 21:18	1
1,2,3-Trichloropropane	ND		1.0	0.23	ug/L			12/12/17 21:18	1
Vinyl acetate	ND		10	1.7	ug/L			12/12/17 21:18	1
Vinyl chloride	ND		1.0	0.18	ug/L			12/12/17 21:18	1
Xylenes, Total	ND		3.0	0.58	ug/L			12/12/17 21:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130		12/12/17 21:18	1
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		12/12/17 21:18	1
Dibromofluoromethane (Surr)	103		70 - 130		12/12/17 21:18	1
Toluene-d8 (Surr)	98		70 - 130		12/12/17 21:18	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	25		2.5	0.72	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluoroheptanoic acid (PFHpA)	35		2.5	0.31	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorononanoic acid (PFNA)	1.7	J	2.5	0.34	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorodecanoic acid (PFDA)	1.3	J	2.5	0.39	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluoroundecanoic acid (PFUnA)	ND		2.5	1.4	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorododecanoic acid (PFDoA)	ND		2.5	0.69	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.5	1.6	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.5	0.36	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorobutanesulfonic acid (PFBS)	3.1		2.5	0.25	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorohexanesulfonic acid (PFHxS)	10	B	2.5	0.21	ng/L		12/12/17 08:31	12/13/17 00:04	1
Perfluorooctanesulfonic acid (PFOS)	52		2.5	0.67	ng/L		12/12/17 08:31	12/13/17 00:04	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		25	3.9	ng/L		12/12/17 08:31	12/13/17 00:04	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	4.1	J	25	2.4	ng/L		12/12/17 08:31	12/13/17 00:04	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	106		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C4-PFHpA	115		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C5 PFNA	126		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C2 PFDA	124		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C2 PFUnA	115		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C2 PFDoA	106		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C2-PFTeDA	106		25 - 150	12/12/17 08:31	12/13/17 00:04	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-02

Lab Sample ID: 480-128714-2

Date Collected: 12/08/17 11:00

Matrix: Water

Date Received: 12/09/17 01:15

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	121		25 - 150	12/12/17 08:31	12/13/17 00:04	1
18O2 PFHxS	120		25 - 150	12/12/17 08:31	12/13/17 00:04	1
13C4 PFOS	115		25 - 150	12/12/17 08:31	12/13/17 00:04	1
d3-NMeFOSAA	129		25 - 150	12/12/17 08:31	12/13/17 00:04	1
d5-NEtFOSAA	128		25 - 150	12/12/17 08:31	12/13/17 00:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1500		12	5.3	ng/L	-	12/12/17 08:31	12/18/17 20:23	5
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	106		25 - 150				12/12/17 08:31	12/18/17 20:23	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.0	0.73	mg/L			12/14/17 23:51	10
Chloride	394		5.0	2.8	mg/L			12/14/17 23:51	10
Sulfate	163		20.0	3.5	mg/L			12/19/17 11:27	10
Total Organic Carbon	4.8	B	1.0	0.43	mg/L			12/12/17 03:45	1
Alkalinity, Total	949		5.0	0.79	mg/L			12/13/17 11:56	1
Total Dissolved Solids	1630		20.0	8.0	mg/L			12/11/17 18:44	1

Client Sample ID: 8-WAY-001-002-03

Lab Sample ID: 480-128714-3

Date Collected: 12/08/17 11:30

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	25		25	2.7	ug/L			12/12/17 21:45	1
Acrylonitrile	ND		10	0.50	ug/L			12/12/17 21:45	1
Benzene	ND		1.0	0.20	ug/L			12/12/17 21:45	1
Bromochloromethane	ND		1.0	0.15	ug/L			12/12/17 21:45	1
Bromodichloromethane	ND		1.0	0.17	ug/L			12/12/17 21:45	1
Bromoform	ND		1.0	0.29	ug/L			12/12/17 21:45	1
Bromomethane	ND		1.0	0.35	ug/L			12/12/17 21:45	1
2-Butanone (MEK)	ND		50	2.6	ug/L			12/12/17 21:45	1
Carbon disulfide	ND		1.0	0.22	ug/L			12/12/17 21:45	1
Carbon tetrachloride	ND		1.0	0.18	ug/L			12/12/17 21:45	1
Chlorobenzene	1.1		1.0	0.18	ug/L			12/12/17 21:45	1
Chloroethane	ND		1.0	0.36	ug/L			12/12/17 21:45	1
Chloroform	ND		1.0	0.23	ug/L			12/12/17 21:45	1
Chloromethane	ND		1.0	0.36	ug/L			12/12/17 21:45	1
cis-1,2-Dichloroethene	ND		1.0	0.21	ug/L			12/12/17 21:45	1
cis-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 21:45	1
Dibromochloromethane	ND		1.0	0.25	ug/L			12/12/17 21:45	1
1,2-Dibromo-3-Chloropropane	ND		10	0.94	ug/L			12/12/17 21:45	1
1,2-Dibromoethane	ND		1.0	0.21	ug/L			12/12/17 21:45	1
Dibromomethane	ND		1.0	0.45	ug/L			12/12/17 21:45	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/12/17 21:45	1
1,4-Dichlorobenzene	1.1		1.0	0.17	ug/L			12/12/17 21:45	1
1,1-Dichloroethane	ND		1.0	0.24	ug/L			12/12/17 21:45	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-03

Lab Sample ID: 480-128714-3

Date Collected: 12/08/17 11:30

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0	0.20	ug/L			12/12/17 21:45	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			12/12/17 21:45	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			12/12/17 21:45	1
Ethylbenzene	ND		1.0	0.19	ug/L			12/12/17 21:45	1
2-Hexanone	ND		10	1.3	ug/L			12/12/17 21:45	1
Iodomethane	ND		10	1.5	ug/L			12/12/17 21:45	1
Methylene Chloride	ND		5.0	1.0	ug/L			12/12/17 21:45	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.81	ug/L			12/12/17 21:45	1
m,p-Xylene	ND		2.0	0.38	ug/L			12/12/17 21:45	1
o-Xylene	ND		1.0	0.20	ug/L			12/12/17 21:45	1
Styrene	ND		1.0	0.28	ug/L			12/12/17 21:45	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.15	ug/L			12/12/17 21:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.19	ug/L			12/12/17 21:45	1
Tetrachloroethene	ND		1.0	0.14	ug/L			12/12/17 21:45	1
Toluene	ND		1.0	0.17	ug/L			12/12/17 21:45	1
trans-1,4-Dichloro-2-butene	ND		5.0	0.46	ug/L			12/12/17 21:45	1
trans-1,2-Dichloroethene	ND		1.0	0.23	ug/L			12/12/17 21:45	1
trans-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 21:45	1
1,1,1-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 21:45	1
1,1,2-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 21:45	1
Trichloroethene	ND		1.0	0.20	ug/L			12/12/17 21:45	1
Trichlorofluoromethane	ND		1.0	0.21	ug/L			12/12/17 21:45	1
1,2,3-Trichloropropane	ND		1.0	0.23	ug/L			12/12/17 21:45	1
Vinyl acetate	ND		10	1.7	ug/L			12/12/17 21:45	1
Vinyl chloride	ND		1.0	0.18	ug/L			12/12/17 21:45	1
Xylenes, Total	ND		3.0	0.58	ug/L			12/12/17 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130		12/12/17 21:45	1
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		12/12/17 21:45	1
Dibromofluoromethane (Surr)	103		70 - 130		12/12/17 21:45	1
Toluene-d8 (Surr)	97		70 - 130		12/12/17 21:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.029	J	0.052	0.027	ug/L		12/13/17 09:15	12/14/17 04:27	1
Acenaphthylene	ND		0.052	0.015	ug/L		12/13/17 09:15	12/14/17 04:27	1
Anthracene	ND		0.052	0.011	ug/L		12/13/17 09:15	12/14/17 04:27	1
Benzo[a]anthracene	ND		0.052	0.019	ug/L		12/13/17 09:15	12/14/17 04:27	1
Benzo[a]pyrene	ND		0.052	0.026	ug/L		12/13/17 09:15	12/14/17 04:27	1
Benzo[b]fluoranthene	0.036	J	0.052	0.020	ug/L		12/13/17 09:15	12/14/17 04:27	1
Benzo[g,h,i]perylene	ND		0.052	0.031	ug/L		12/13/17 09:15	12/14/17 04:27	1
Benzo[k]fluoranthene	ND *		0.052	0.029	ug/L		12/13/17 09:15	12/14/17 04:27	1
Chrysene	0.026	J	0.052	0.020	ug/L		12/13/17 09:15	12/14/17 04:27	1
Dibenz(a,h)anthracene	ND		0.052	0.039	ug/L		12/13/17 09:15	12/14/17 04:27	1
1,4-Dioxane	0.39	J	0.42	0.046	ug/L		12/13/17 09:15	12/14/17 04:27	1
Fluoranthene	0.051	J *	0.052	0.019	ug/L		12/13/17 09:15	12/14/17 04:27	1
Fluorene	ND		0.052	0.017	ug/L		12/13/17 09:15	12/14/17 04:27	1
Indeno[1,2,3-cd]pyrene	ND		0.052	0.022	ug/L		12/13/17 09:15	12/14/17 04:27	1
Naphthalene	ND *		0.052	0.021	ug/L		12/13/17 09:15	12/14/17 04:27	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-03

Lab Sample ID: 480-128714-3

Date Collected: 12/08/17 11:30

Matrix: Water

Date Received: 12/09/17 01:15

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.052	0.024	ug/L		12/13/17 09:15	12/14/17 04:27	1
Pyrene	0.039	J	0.052	0.025	ug/L		12/13/17 09:15	12/14/17 04:27	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		45 - 107	12/13/17 09:15	12/14/17 05:32	1
2-Fluorophenol (Surr)	34		25 - 58	12/13/17 09:15	12/14/17 05:32	1
Nitrobenzene-d5 (Surr)	71		51 - 108	12/13/17 09:15	12/14/17 05:32	1
Phenol-d5 (Surr)	19		14 - 39	12/13/17 09:15	12/14/17 05:32	1
Terphenyl-d14 (Surr)	80		40 - 148	12/13/17 09:15	12/14/17 05:32	1
2,4,6-Tribromophenol (Surr)	89		26 - 139	12/13/17 09:15	12/14/17 05:32	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	58		2.0	0.58	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluoroheptanoic acid (PFHpA)	49		2.0	0.25	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorononanoic acid (PFNA)	2.7		2.0	0.27	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorodecanoic acid (PFDA)	1.6	J	2.0	0.31	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorohexanesulfonic acid (PFHxS)	13	B	2.0	0.17	ng/L		12/12/17 08:31	12/13/17 00:20	1
Perfluorooctanesulfonic acid (PFOS)	120		2.0	0.54	ng/L		12/12/17 08:31	12/13/17 00:20	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		12/12/17 08:31	12/13/17 00:20	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	16	J	20	1.9	ng/L		12/12/17 08:31	12/13/17 00:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	106		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C4-PFHxA	114		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C5 PFNA	140		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C2 PFDA	150		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C2 PFUnA	138		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C2 PFDoA	128		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C2-PFTeDA	136		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C3-PFBS	124		25 - 150	12/12/17 08:31	12/13/17 00:20	1
18O2 PFHxS	126		25 - 150	12/12/17 08:31	12/13/17 00:20	1
13C4 PFOS	134		25 - 150	12/12/17 08:31	12/13/17 00:20	1
d3-NMeFOSAA	150		25 - 150	12/12/17 08:31	12/13/17 00:20	1
d5-NEtFOSAA	153	*	25 - 150	12/12/17 08:31	12/13/17 00:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1800		10	4.3	ng/L		12/12/17 08:31	12/18/17 20:31	5

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-03

Lab Sample ID: 480-128714-3

Date Collected: 12/08/17 11:30

Matrix: Water

Date Received: 12/09/17 01:15

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	111		25 - 150	12/12/17 08:31	12/18/17 20:31	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	330		1.0	0.30	mg/L		12/12/17 08:25	12/12/17 18:20	1
Antimony	ND		0.10	0.034	mg/L		12/12/17 08:25	12/12/17 18:20	1
Arsenic	0.64		0.075	0.028	mg/L		12/12/17 08:25	12/12/17 18:20	1
Barium	27.8		0.010	0.0035	mg/L		12/12/17 08:25	12/12/17 18:20	1
Beryllium	0.018		0.010	0.0015	mg/L		12/12/17 08:25	12/12/17 18:20	1
Boron	3.1		0.10	0.020	mg/L		12/12/17 08:25	12/12/17 18:20	1
Cadmium	0.031		0.010	0.0025	mg/L		12/12/17 08:25	12/12/17 18:20	1
Calcium	3220		2.5	0.50	mg/L		12/12/17 08:25	12/12/17 18:20	1
Chromium	0.53		0.020	0.0050	mg/L		12/12/17 08:25	12/12/17 18:20	1
Cobalt	0.23		0.020	0.0032	mg/L		12/12/17 08:25	12/12/17 18:20	1
Copper	3.2		0.050	0.0080	mg/L		12/12/17 08:25	12/12/17 18:20	1
Iron	2170		0.25	0.097	mg/L		12/12/17 08:25	12/12/17 18:20	1
Lead	2.6		0.050	0.015	mg/L		12/12/17 08:25	12/12/17 18:20	1
Magnesium	608		1.0	0.22	mg/L		12/12/17 08:25	12/12/17 18:20	1
Manganese	47.9		0.015	0.0020	mg/L		12/12/17 08:25	12/12/17 18:20	1
Nickel	0.68		0.050	0.0063	mg/L		12/12/17 08:25	12/12/17 18:20	1
Potassium	115		2.5	0.50	mg/L		12/12/17 08:25	12/12/17 18:20	1
Selenium	ND		0.13	0.044	mg/L		12/12/17 08:25	12/12/17 18:20	1
Silver	ND		0.030	0.0085	mg/L		12/12/17 08:25	12/12/17 18:20	1
Sodium	204		5.0	1.6	mg/L		12/12/17 08:25	12/12/17 18:20	1
Thallium	ND		0.10	0.051	mg/L		12/12/17 08:25	12/12/17 18:20	1
Vanadium	0.68		0.025	0.0075	mg/L		12/12/17 08:25	12/12/17 18:20	1
Zinc	17.3	^	0.050	0.0075	mg/L		12/12/17 08:25	12/12/17 18:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.012		0.0010	0.00060	mg/L		12/13/17 13:30	12/13/17 18:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.0	0.73	mg/L			12/15/17 00:06	10
Chloride	377		5.0	2.8	mg/L			12/15/17 00:06	10
Sulfate	107		20.0	3.5	mg/L			12/19/17 11:35	10
Ammonia	3.7		0.040	0.018	mg/L			12/12/17 16:47	2
Chemical Oxygen Demand	10400		1000	500	mg/L			12/14/17 19:30	100
Total Organic Carbon	9.2	B	1.0	0.43	mg/L			12/12/17 04:15	1
Alkalinity, Total	1120		5.0	0.79	mg/L			12/13/17 12:08	1
Total hardness as CaCO3	1800		50.0	13.1	mg/L			12/18/17 17:45	1
Total Dissolved Solids	1740		20.0	8.0	mg/L			12/11/17 18:44	1

Client Sample ID: 8-WAY-001-002-04

Lab Sample ID: 480-128714-4

Date Collected: 12/08/17 11:35

Matrix: Water

Date Received: 12/09/17 01:15

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.1	0.60	ng/L		12/12/17 08:31	12/13/17 00:28	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-04

Lab Sample ID: 480-128714-4

Date Collected: 12/08/17 11:35

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		2.1	0.26	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorooctanoic acid (PFOA)	ND		2.1	0.88	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorononanoic acid (PFNA)	ND		2.1	0.28	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorodecanoic acid (PFDA)	ND		2.1	0.32	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	1.1	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.57	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.1	1.3	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.30	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.1	0.21	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	2.1	0.18	ng/L		12/12/17 08:31	12/13/17 00:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.1	0.56	ng/L		12/12/17 08:31	12/13/17 00:28	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		21	3.2	ng/L		12/12/17 08:31	12/13/17 00:28	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		21	2.0	ng/L		12/12/17 08:31	12/13/17 00:28	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	113		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C4-PFHxA	108		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C4 PFOA	107		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C5 PFNA	113		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C2 PFDA	111		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C2 PFUnA	108		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C2 PFDoA	107		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C2-PFTeDA	121		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C3-PFBS	108		25 - 150				12/12/17 08:31	12/13/17 00:28	1
18O2 PFHxS	107		25 - 150				12/12/17 08:31	12/13/17 00:28	1
13C4 PFOS	111		25 - 150				12/12/17 08:31	12/13/17 00:28	1
d3-NMeFOSAA	107		25 - 150				12/12/17 08:31	12/13/17 00:28	1
d5-NEtFOSAA	116		25 - 150				12/12/17 08:31	12/13/17 00:28	1

Client Sample ID: 8-WAY-001-002-05

Lab Sample ID: 480-128714-5

Date Collected: 12/08/17 11:40

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	2.7	ug/L			12/12/17 19:58	1
Acrylonitrile	ND		10	0.50	ug/L			12/12/17 19:58	1
Benzene	ND		1.0	0.20	ug/L			12/12/17 19:58	1
Bromochloromethane	ND		1.0	0.15	ug/L			12/12/17 19:58	1
Bromodichloromethane	ND		1.0	0.17	ug/L			12/12/17 19:58	1
Bromoform	ND		1.0	0.29	ug/L			12/12/17 19:58	1
Bromomethane	ND		1.0	0.35	ug/L			12/12/17 19:58	1
2-Butanone (MEK)	ND		50	2.6	ug/L			12/12/17 19:58	1
Carbon disulfide	ND		1.0	0.22	ug/L			12/12/17 19:58	1
Carbon tetrachloride	ND		1.0	0.18	ug/L			12/12/17 19:58	1
Chlorobenzene	ND		1.0	0.18	ug/L			12/12/17 19:58	1
Chloroethane	ND		1.0	0.36	ug/L			12/12/17 19:58	1
Chloroform	ND		1.0	0.23	ug/L			12/12/17 19:58	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-05

Lab Sample ID: 480-128714-5

Date Collected: 12/08/17 11:40

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.36	ug/L			12/12/17 19:58	1
cis-1,2-Dichloroethene	ND		1.0	0.21	ug/L			12/12/17 19:58	1
cis-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 19:58	1
Dibromochloromethane	ND		1.0	0.25	ug/L			12/12/17 19:58	1
1,2-Dibromo-3-Chloropropane	ND		10	0.94	ug/L			12/12/17 19:58	1
1,2-Dibromoethane	ND		1.0	0.21	ug/L			12/12/17 19:58	1
Dibromomethane	ND		1.0	0.45	ug/L			12/12/17 19:58	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/12/17 19:58	1
1,4-Dichlorobenzene	ND		1.0	0.17	ug/L			12/12/17 19:58	1
1,1-Dichloroethane	ND		1.0	0.24	ug/L			12/12/17 19:58	1
1,2-Dichloroethane	ND		1.0	0.20	ug/L			12/12/17 19:58	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			12/12/17 19:58	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			12/12/17 19:58	1
Ethylbenzene	ND		1.0	0.19	ug/L			12/12/17 19:58	1
2-Hexanone	ND		10	1.3	ug/L			12/12/17 19:58	1
Iodomethane	ND		10	1.5	ug/L			12/12/17 19:58	1
Methylene Chloride	ND		5.0	1.0	ug/L			12/12/17 19:58	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.81	ug/L			12/12/17 19:58	1
m,p-Xylene	ND		2.0	0.38	ug/L			12/12/17 19:58	1
o-Xylene	ND		1.0	0.20	ug/L			12/12/17 19:58	1
Styrene	ND		1.0	0.28	ug/L			12/12/17 19:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.15	ug/L			12/12/17 19:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.19	ug/L			12/12/17 19:58	1
Tetrachloroethene	ND		1.0	0.14	ug/L			12/12/17 19:58	1
Toluene	ND		1.0	0.17	ug/L			12/12/17 19:58	1
trans-1,4-Dichloro-2-butene	ND		5.0	0.46	ug/L			12/12/17 19:58	1
trans-1,2-Dichloroethene	ND		1.0	0.23	ug/L			12/12/17 19:58	1
trans-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 19:58	1
1,1,1-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 19:58	1
1,1,2-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 19:58	1
Trichloroethene	ND		1.0	0.20	ug/L			12/12/17 19:58	1
Trichlorofluoromethane	ND		1.0	0.21	ug/L			12/12/17 19:58	1
1,2,3-Trichloropropane	ND		1.0	0.23	ug/L			12/12/17 19:58	1
Vinyl acetate	ND		10	1.7	ug/L			12/12/17 19:58	1
Vinyl chloride	ND		1.0	0.18	ug/L			12/12/17 19:58	1
Xylenes, Total	ND		3.0	0.58	ug/L			12/12/17 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		12/12/17 19:58	1
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		12/12/17 19:58	1
Dibromofluoromethane (Surr)	104		70 - 130		12/12/17 19:58	1
Toluene-d8 (Surr)	100		70 - 130		12/12/17 19:58	1

Client Sample ID: 8-WAY-001-002-06

Lab Sample ID: 480-128714-6

Date Collected: 12/08/17 11:50

Matrix: Water

Date Received: 12/09/17 01:15

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		12/12/17 08:31	12/13/17 00:36	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-06

Lab Sample ID: 480-128714-6

Date Collected: 12/08/17 11:50

Matrix: Water

Date Received: 12/09/17 01:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	2.0	0.17	ng/L		12/12/17 08:31	12/13/17 00:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		12/12/17 08:31	12/13/17 00:36	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		12/12/17 08:31	12/13/17 00:36	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		12/12/17 08:31	12/13/17 00:36	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C2 PFHxA	112		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C4-PFHxA	113		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C4 PFOA	111		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C5 PFNA	121		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C2 PFDA	117		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C2 PFUnA	117		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C2 PFDoA	119		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C2-PFTeDA	130		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C3-PFBS	115		25 - 150				12/12/17 08:31	12/13/17 00:36	1
18O2 PFHxS	115		25 - 150				12/12/17 08:31	12/13/17 00:36	1
13C4 PFOS	114		25 - 150				12/12/17 08:31	12/13/17 00:36	1
d3-NMeFOSAA	125		25 - 150				12/12/17 08:31	12/13/17 00:36	1
d5-NEtFOSAA	122		25 - 150				12/12/17 08:31	12/13/17 00:36	1

TestAmerica Buffalo

Surrogate Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (70-130)	DCA (70-130)	DBFM (70-130)	TOL (70-130)
480-128714-1	8-WAY-001-002-01	91	95	102	99
480-128714-2	8-WAY-001-002-02	90	97	103	98
480-128714-3	8-WAY-001-002-03	91	94	103	97
480-128714-5	8-WAY-001-002-05	94	97	104	100
LCS 490-482588/5	Lab Control Sample	91	97	103	99
MB 490-482588/7	Method Blank	93	99	105	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (45-107)	2FP (25-58)	NBZ (51-108)	PHL (14-39)	TPHL (40-148)	TBP (26-139)
480-128714-1	8-WAY-001-002-01	67	34	77	21	89	106
480-128714-3	8-WAY-001-002-03	72	34	71	19	80	89
LCS 460-483895/2-A	Lab Control Sample	84	40	80	24	93	95
MB 460-483895/1-A	Method Blank	84	42	84	24	97	99

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Isotope Dilution Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)	PFDaA (25-150)	PFTDA (25-150)
480-128714-1	8-WAY-001-002-01	89	99	107	114	121	107	101	101
480-128714-2	8-WAY-001-002-02	106	115		126	124	115	106	106
480-128714-2 - DL	8-WAY-001-002-02			106					
480-128714-3	8-WAY-001-002-03	106	114		140	150	138	128	136
480-128714-3 - DL	8-WAY-001-002-03			111					
480-128714-4	8-WAY-001-002-04	113	108	107	113	111	108	107	121
480-128714-6	8-WAY-001-002-06	112	113	111	121	117	117	119	130
LCS 320-199446/2-A	Lab Control Sample	108	112	108	113	116	109	97	114
LCSD 320-199446/3-A	Lab Control Sample Dup	110	106	105	113	113	105	102	108
MB 320-199446/1-A	Method Blank	113	112	112	107	108	105	105	119

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	3C3-PFBs (25-150)	PFHxS (25-150)	PFOS (25-150)	d-NMeFOS (25-150)	d-NEtFOS (25-150)
480-128714-1	8-WAY-001-002-01	104	107	108	143	127
480-128714-2	8-WAY-001-002-02	121	120	115	129	128
480-128714-2 - DL	8-WAY-001-002-02					
480-128714-3	8-WAY-001-002-03	124	126	134	150	153 *
480-128714-3 - DL	8-WAY-001-002-03					
480-128714-4	8-WAY-001-002-04	108	107	111	107	116
480-128714-6	8-WAY-001-002-06	115	115	114	125	122
LCS 320-199446/2-A	Lab Control Sample	112	108	109	110	112
LCSD 320-199446/3-A	Lab Control Sample Dup	109	110	109	115	114
MB 320-199446/1-A	Method Blank	101	110	108	107	115

Surrogate Legend

PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDaA = 13C2 PFDaA
PFTDA = 13C2-PFTeDA
13C3-PFBs = 13C3-PFBs
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: MB 490-482588/7

Matrix: Water

Analysis Batch: 482588

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	2.7	ug/L			12/12/17 13:44	1
Acrylonitrile	ND		10	0.50	ug/L			12/12/17 13:44	1
Benzene	ND		1.0	0.20	ug/L			12/12/17 13:44	1
Bromochloromethane	ND		1.0	0.15	ug/L			12/12/17 13:44	1
Bromodichloromethane	ND		1.0	0.17	ug/L			12/12/17 13:44	1
Bromoform	ND		1.0	0.29	ug/L			12/12/17 13:44	1
Bromomethane	ND		1.0	0.35	ug/L			12/12/17 13:44	1
2-Butanone (MEK)	ND		50	2.6	ug/L			12/12/17 13:44	1
Carbon disulfide	ND		1.0	0.22	ug/L			12/12/17 13:44	1
Carbon tetrachloride	ND		1.0	0.18	ug/L			12/12/17 13:44	1
Chlorobenzene	ND		1.0	0.18	ug/L			12/12/17 13:44	1
Chloroethane	ND		1.0	0.36	ug/L			12/12/17 13:44	1
Chloroform	ND		1.0	0.23	ug/L			12/12/17 13:44	1
Chloromethane	ND		1.0	0.36	ug/L			12/12/17 13:44	1
cis-1,2-Dichloroethene	ND		1.0	0.21	ug/L			12/12/17 13:44	1
cis-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 13:44	1
Dibromochloromethane	ND		1.0	0.25	ug/L			12/12/17 13:44	1
1,2-Dibromo-3-Chloropropane	ND		10	0.94	ug/L			12/12/17 13:44	1
1,2-Dibromoethane	ND		1.0	0.21	ug/L			12/12/17 13:44	1
Dibromomethane	ND		1.0	0.45	ug/L			12/12/17 13:44	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/12/17 13:44	1
1,4-Dichlorobenzene	ND		1.0	0.17	ug/L			12/12/17 13:44	1
1,1-Dichloroethane	ND		1.0	0.24	ug/L			12/12/17 13:44	1
1,2-Dichloroethane	ND		1.0	0.20	ug/L			12/12/17 13:44	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			12/12/17 13:44	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			12/12/17 13:44	1
Ethylbenzene	ND		1.0	0.19	ug/L			12/12/17 13:44	1
2-Hexanone	ND		10	1.3	ug/L			12/12/17 13:44	1
Iodomethane	ND		10	1.5	ug/L			12/12/17 13:44	1
Methylene Chloride	ND		5.0	1.0	ug/L			12/12/17 13:44	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.81	ug/L			12/12/17 13:44	1
m,p-Xylene	ND		2.0	0.38	ug/L			12/12/17 13:44	1
o-Xylene	ND		1.0	0.20	ug/L			12/12/17 13:44	1
Styrene	ND		1.0	0.28	ug/L			12/12/17 13:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.15	ug/L			12/12/17 13:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.19	ug/L			12/12/17 13:44	1
Tetrachloroethene	ND		1.0	0.14	ug/L			12/12/17 13:44	1
Toluene	ND		1.0	0.17	ug/L			12/12/17 13:44	1
trans-1,4-Dichloro-2-butene	ND		5.0	0.46	ug/L			12/12/17 13:44	1
trans-1,2-Dichloroethene	ND		1.0	0.23	ug/L			12/12/17 13:44	1
trans-1,3-Dichloropropene	ND		1.0	0.17	ug/L			12/12/17 13:44	1
1,1,1-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 13:44	1
1,1,2-Trichloroethane	ND		1.0	0.19	ug/L			12/12/17 13:44	1
Trichloroethene	ND		1.0	0.20	ug/L			12/12/17 13:44	1
Trichlorofluoromethane	ND		1.0	0.21	ug/L			12/12/17 13:44	1
1,2,3-Trichloropropane	ND		1.0	0.23	ug/L			12/12/17 13:44	1
Vinyl acetate	ND		10	1.7	ug/L			12/12/17 13:44	1
Vinyl chloride	ND		1.0	0.18	ug/L			12/12/17 13:44	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: MB 490-482588/7

Matrix: Water

Analysis Batch: 482588

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		3.0	0.58	ug/L			12/12/17 13:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130					12/12/17 13:44	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130					12/12/17 13:44	1
Dibromofluoromethane (Surr)	105		70 - 130					12/12/17 13:44	1
Toluene-d8 (Surr)	99		70 - 130					12/12/17 13:44	1

Lab Sample ID: LCS 490-482588/5

Matrix: Water

Analysis Batch: 482588

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	100	96.4		ug/L		96	54 - 145
Acrylonitrile	200	200		ug/L		100	61 - 140
Benzene	20.0	20.5		ug/L		103	80 - 121
Bromochloromethane	20.0	21.5		ug/L		107	78 - 129
Bromodichloromethane	20.0	21.9		ug/L		109	75 - 129
Bromoform	20.0	18.0		ug/L		90	46 - 145
Bromomethane	20.0	19.0		ug/L		95	41 - 150
2-Butanone (MEK)	100	97.9		ug/L		98	62 - 133
Carbon disulfide	20.0	21.0		ug/L		105	77 - 126
Carbon tetrachloride	20.0	24.1		ug/L		121	64 - 147
Chlorobenzene	20.0	18.9		ug/L		94	80 - 120
Chloroethane	20.0	19.9		ug/L		100	72 - 120
Chloroform	20.0	21.8		ug/L		109	73 - 129
Chloromethane	20.0	18.6		ug/L		93	12 - 150
cis-1,2-Dichloroethene	20.0	21.8		ug/L		109	76 - 125
cis-1,3-Dichloropropene	20.0	20.3		ug/L		102	74 - 140
Dibromochloromethane	20.0	19.4		ug/L		97	69 - 133
1,2-Dibromo-3-Chloropropane	20.0	15.5		ug/L		78	54 - 125
1,2-Dibromoethane	20.0	20.7		ug/L		104	80 - 129
Dibromomethane	20.0	20.5		ug/L		102	71 - 125
1,2-Dichlorobenzene	20.0	17.9		ug/L		89	80 - 121
1,4-Dichlorobenzene	20.0	17.1		ug/L		86	80 - 120
1,1-Dichloroethane	20.0	22.3		ug/L		112	78 - 125
1,2-Dichloroethane	20.0	21.6		ug/L		108	77 - 121
1,1-Dichloroethene	20.0	22.4		ug/L		112	79 - 124
1,2-Dichloropropane	20.0	21.1		ug/L		105	75 - 120
Ethylbenzene	20.0	18.4		ug/L		92	80 - 130
2-Hexanone	100	85.3		ug/L		85	60 - 142
Iodomethane	20.0	19.1		ug/L		96	40 - 150
Methylene Chloride	20.0	20.3		ug/L		101	79 - 123
4-Methyl-2-pentanone (MIBK)	100	91.8		ug/L		92	60 - 137
m,p-Xylene	20.0	17.7		ug/L		89	80 - 141
o-Xylene	20.0	17.5		ug/L		88	80 - 127
Styrene	20.0	17.3		ug/L		86	80 - 127
1,1,1,2-Tetrachloroethane	20.0	19.6		ug/L		98	74 - 135

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: LCS 490-482588/5

Matrix: Water

Analysis Batch: 482588

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	20.0	18.9		ug/L		94	69 - 131
Tetrachloroethene	20.0	20.6		ug/L		103	80 - 126
Toluene	20.0	19.4		ug/L		97	80 - 126
trans-1,4-Dichloro-2-butene	20.0	22.6		ug/L		113	41 - 147
trans-1,2-Dichloroethene	20.0	23.1		ug/L		115	79 - 126
trans-1,3-Dichloropropene	20.0	18.9		ug/L		94	63 - 134
1,1,1-Trichloroethane	20.0	22.5		ug/L		112	78 - 135
1,1,2-Trichloroethane	20.0	20.1		ug/L		101	80 - 124
Trichloroethene	20.0	21.9		ug/L		110	80 - 123
Trichlorofluoromethane	20.0	23.6		ug/L		118	65 - 124
1,2,3-Trichloropropane	20.0	18.3		ug/L		92	70 - 131
Vinyl acetate	40.0	41.0		ug/L		103	54 - 139
Vinyl chloride	20.0	22.7		ug/L		113	68 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130
Toluene-d8 (Surr)	99		70 - 130

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-483895/1-A

Matrix: Water

Analysis Batch: 484050

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 483895

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	84		45 - 107	12/13/17 09:15	12/13/17 21:39	1
2-Fluorophenol (Surr)	42		25 - 58	12/13/17 09:15	12/13/17 21:39	1
Nitrobenzene-d5 (Surr)	84		51 - 108	12/13/17 09:15	12/13/17 21:39	1
Phenol-d5 (Surr)	24		14 - 39	12/13/17 09:15	12/13/17 21:39	1
Terphenyl-d14 (Surr)	97		40 - 148	12/13/17 09:15	12/13/17 21:39	1
2,4,6-Tribromophenol (Surr)	99		26 - 139	12/13/17 09:15	12/13/17 21:39	1

Lab Sample ID: LCS 460-483895/2-A

Matrix: Water

Analysis Batch: 484050

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 483895

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	80.0	73.1		ug/L		91	58 - 107
Acenaphthylene	80.0	70.0		ug/L		87	61 - 106
Anthracene	80.0	73.6		ug/L		92	70 - 118
Benzo[a]anthracene	80.0	77.1		ug/L		96	73 - 119
Benzo[a]pyrene	80.0	77.2		ug/L		96	76 - 125
Benzo[b]fluoranthene	80.0	73.2		ug/L		91	78 - 123
Benzo[g,h,i]perylene	80.0	81.6		ug/L		102	63 - 133
Benzo[k]fluoranthene	80.0	75.2		ug/L		94	71 - 126

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 460-483895/2-A

Matrix: Water

Analysis Batch: 484050

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 483895

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chrysene	80.0	76.8		ug/L		96	73 - 121
Dibenz(a,h)anthracene	80.0	82.0		ug/L		103	59 - 136
1,4-Dioxane	80.0	33.1		ug/L		41	25 - 66
Fluoranthene	80.0	79.9		ug/L		100	66 - 123
Fluorene	80.0	72.2		ug/L		90	67 - 112
Indeno[1,2,3-cd]pyrene	80.0	87.7		ug/L		110	57 - 142
Naphthalene	80.0	64.7		ug/L		81	51 - 98
Phenanthrene	80.0	75.0		ug/L		94	70 - 117
Pyrene	80.0	77.9		ug/L		97	63 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	84		45 - 107
2-Fluorophenol (Surr)	40		25 - 58
Nitrobenzene-d5 (Surr)	80		51 - 108
Phenol-d5 (Surr)	24		14 - 39
Terphenyl-d14 (Surr)	93		40 - 148
2,4,6-Tribromophenol (Surr)	95		26 - 139

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

Lab Sample ID: MB 460-483895/1-A

Matrix: Water

Analysis Batch: 484085

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 483895

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.050	0.026	ug/L		12/13/17 09:15	12/14/17 08:51	1
Acenaphthylene	ND		0.050	0.014	ug/L		12/13/17 09:15	12/14/17 08:51	1
Anthracene	ND		0.050	0.011	ug/L		12/13/17 09:15	12/14/17 08:51	1
Benzo[a]anthracene	ND		0.050	0.018	ug/L		12/13/17 09:15	12/14/17 08:51	1
Benzo[a]pyrene	ND		0.050	0.025	ug/L		12/13/17 09:15	12/14/17 08:51	1
Benzo[b]fluoranthene	ND		0.050	0.019	ug/L		12/13/17 09:15	12/14/17 08:51	1
Benzo[g,h,i]perylene	ND		0.050	0.030	ug/L		12/13/17 09:15	12/14/17 08:51	1
Benzo[k]fluoranthene	ND		0.050	0.028	ug/L		12/13/17 09:15	12/14/17 08:51	1
Chrysene	ND		0.050	0.019	ug/L		12/13/17 09:15	12/14/17 08:51	1
Dibenz(a,h)anthracene	ND		0.050	0.037	ug/L		12/13/17 09:15	12/14/17 08:51	1
1,4-Dioxane	ND		0.40	0.044	ug/L		12/13/17 09:15	12/14/17 08:51	1
Fluoranthene	ND		0.050	0.018	ug/L		12/13/17 09:15	12/14/17 08:51	1
Fluorene	ND		0.050	0.016	ug/L		12/13/17 09:15	12/14/17 08:51	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.021	ug/L		12/13/17 09:15	12/14/17 08:51	1
Naphthalene	ND		0.050	0.020	ug/L		12/13/17 09:15	12/14/17 08:51	1
Phenanthrene	ND		0.050	0.023	ug/L		12/13/17 09:15	12/14/17 08:51	1
Pyrene	ND		0.050	0.024	ug/L		12/13/17 09:15	12/14/17 08:51	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-199446/1-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 199446

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorotetradecanoic acid (PFTeA)	0.626	J	2.0	0.29	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorohexanesulfonic acid (PFHxS)	0.307	J	2.0	0.17	ng/L		12/12/17 08:31	12/12/17 22:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		12/12/17 08:31	12/12/17 22:53	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		12/12/17 08:31	12/12/17 22:53	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		12/12/17 08:31	12/12/17 22:53	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	113		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C4-PFHxA	112		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C4 PFOA	112		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C5 PFNA	107		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2 PFDA	108		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2 PFUnA	105		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2 PFDoA	105		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C2-PFTeA	119		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C3-PFBS	101		25 - 150	12/12/17 08:31	12/12/17 22:53	1
18O2 PFHxS	110		25 - 150	12/12/17 08:31	12/12/17 22:53	1
13C4 PFOS	108		25 - 150	12/12/17 08:31	12/12/17 22:53	1
d3-NMeFOSAA	107		25 - 150	12/12/17 08:31	12/12/17 22:53	1
d5-NEtFOSAA	115		25 - 150	12/12/17 08:31	12/12/17 22:53	1

Lab Sample ID: LCS 320-199446/2-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	40.0	38.2		ng/L		96	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	39.2		ng/L		98	78 - 138
Perfluorooctanoic acid (PFOA)	40.0	36.9		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.4		ng/L		101	77 - 137
Perfluorodecanoic acid (PFDA)	40.0	37.4		ng/L		93	74 - 134
Perfluoroundecanoic acid (PFUnA)	40.0	32.3		ng/L		81	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	41.4		ng/L		103	72 - 132
Perfluorotridecanoic Acid (PFTriA)	40.0	43.4		ng/L		109	56 - 163
Perfluorotetradecanoic acid (PFTeA)	40.0	37.0		ng/L		92	63 - 123

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: LCS 320-199446/2-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	35.4	35.4		ng/L		100	79 - 139
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.1		ng/L		97	77 - 137
Perfluorooctanesulfonic acid (PFOS)	37.1	37.0		ng/L		100	74 - 134
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	37.9		ng/L		95	77 - 137
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	36.3		ng/L		91	79 - 139

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2 PFHxA	108		25 - 150
13C4-PFHpA	112		25 - 150
13C4 PFOA	108		25 - 150
13C5 PFNA	113		25 - 150
13C2 PFDA	116		25 - 150
13C2 PFUnA	109		25 - 150
13C2 PFDoA	97		25 - 150
13C2-PFTeDA	114		25 - 150
13C3-PFBS	112		25 - 150
18O2 PFHxS	108		25 - 150
13C4 PFOS	109		25 - 150
d3-NMeFOSAA	110		25 - 150
d5-NEtFOSAA	112		25 - 150

Lab Sample ID: LCSD 320-199446/3-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorohexanoic acid (PFHxA)	40.0	39.6		ng/L		99	76 - 136	3	30
Perfluoroheptanoic acid (PFHpA)	40.0	41.8		ng/L		105	78 - 138	6	30
Perfluorooctanoic acid (PFOA)	40.0	37.6		ng/L		94	70 - 130	2	30
Perfluorononanoic acid (PFNA)	40.0	41.3		ng/L		103	77 - 137	2	30
Perfluorodecanoic acid (PFDA)	40.0	40.8		ng/L		102	74 - 134	9	30
Perfluoroundecanoic acid (PFUnA)	40.0	35.4		ng/L		89	68 - 128	9	30
Perfluorododecanoic acid (PFDoA)	40.0	39.7		ng/L		99	72 - 132	4	30
Perfluorotridecanoic Acid (PFTriA)	40.0	43.2		ng/L		108	56 - 163	1	30
Perfluorotetradecanoic acid (PFTeA)	40.0	40.3		ng/L		101	63 - 123	9	30
Perfluorobutanesulfonic acid (PFBS)	35.4	37.6		ng/L		106	79 - 139	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.9		ng/L		96	77 - 137	1	30
Perfluorooctanesulfonic acid (PFOS)	37.1	37.1		ng/L		100	74 - 134	0	30

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: LCSD 320-199446/3-A

Matrix: Water

Analysis Batch: 199649

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 199446

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	37.4		ng/L		94	77 - 137	1	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	37.2		ng/L		93	79 - 139	2	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFHxA	110		25 - 150
13C4-PFHpA	106		25 - 150
13C4 PFOA	105		25 - 150
13C5 PFNA	113		25 - 150
13C2 PFDA	113		25 - 150
13C2 PFUnA	105		25 - 150
13C2 PFDoA	102		25 - 150
13C2-PFTeDA	108		25 - 150
13C3-PFBS	109		25 - 150
18O2 PFHxS	110		25 - 150
13C4 PFOS	109		25 - 150
d3-NMeFOSAA	115		25 - 150
d5-NEtFOSAA	114		25 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-391502/1-A

Matrix: Water

Analysis Batch: 391778

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 391502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		12/12/17 08:25	12/12/17 16:11	1
Antimony	ND		0.020	0.0068	mg/L		12/12/17 08:25	12/12/17 16:11	1
Arsenic	ND		0.015	0.0056	mg/L		12/12/17 08:25	12/12/17 16:11	1
Barium	ND		0.0020	0.00070	mg/L		12/12/17 08:25	12/12/17 16:11	1
Beryllium	ND		0.0020	0.00030	mg/L		12/12/17 08:25	12/12/17 16:11	1
Boron	ND		0.020	0.0040	mg/L		12/12/17 08:25	12/12/17 16:11	1
Cadmium	ND		0.0020	0.00050	mg/L		12/12/17 08:25	12/12/17 16:11	1
Calcium	ND		0.50	0.10	mg/L		12/12/17 08:25	12/12/17 16:11	1
Chromium	ND		0.0040	0.0010	mg/L		12/12/17 08:25	12/12/17 16:11	1
Cobalt	ND		0.0040	0.00063	mg/L		12/12/17 08:25	12/12/17 16:11	1
Copper	ND		0.010	0.0016	mg/L		12/12/17 08:25	12/12/17 16:11	1
Iron	ND		0.050	0.019	mg/L		12/12/17 08:25	12/12/17 16:11	1
Lead	ND		0.010	0.0030	mg/L		12/12/17 08:25	12/12/17 16:11	1
Magnesium	ND		0.20	0.043	mg/L		12/12/17 08:25	12/12/17 16:11	1
Manganese	ND		0.0030	0.00040	mg/L		12/12/17 08:25	12/12/17 16:11	1
Nickel	ND		0.010	0.0013	mg/L		12/12/17 08:25	12/12/17 16:11	1
Potassium	ND		0.50	0.10	mg/L		12/12/17 08:25	12/12/17 16:11	1
Selenium	ND		0.025	0.0087	mg/L		12/12/17 08:25	12/12/17 16:11	1
Silver	ND		0.0060	0.0017	mg/L		12/12/17 08:25	12/12/17 16:11	1
Sodium	ND		1.0	0.32	mg/L		12/12/17 08:25	12/12/17 16:11	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: MB 480-391502/1-A

Matrix: Water

Analysis Batch: 391778

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 391502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.020	0.010	mg/L		12/12/17 08:25	12/12/17 16:11	1
Vanadium	ND		0.0050	0.0015	mg/L		12/12/17 08:25	12/12/17 16:11	1
Zinc	ND		0.010	0.0015	mg/L		12/12/17 08:25	12/12/17 16:11	1

Lab Sample ID: LCS 480-391502/2-A

Matrix: Water

Analysis Batch: 391778

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 391502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	10.0	9.84		mg/L		98	80 - 120
Antimony	0.200	0.199		mg/L		99	80 - 120
Arsenic	0.200	0.206		mg/L		103	80 - 120
Barium	0.200	0.191		mg/L		96	80 - 120
Beryllium	0.200	0.200		mg/L		100	80 - 120
Boron	0.200	0.198		mg/L		99	80 - 120
Cadmium	0.200	0.196		mg/L		98	80 - 120
Calcium	10.0	10.12		mg/L		101	80 - 120
Chromium	0.200	0.197		mg/L		99	80 - 120
Cobalt	0.200	0.194		mg/L		97	80 - 120
Copper	0.200	0.203		mg/L		101	80 - 120
Iron	10.0	10.18		mg/L		102	80 - 120
Lead	0.200	0.207		mg/L		103	80 - 120
Magnesium	10.0	10.25		mg/L		102	80 - 120
Manganese	0.200	0.213		mg/L		106	80 - 120
Nickel	0.200	0.204		mg/L		102	80 - 120
Potassium	10.0	9.80		mg/L		98	80 - 120
Selenium	0.200	0.201		mg/L		100	80 - 120
Silver	0.0500	0.0502		mg/L		100	80 - 120
Sodium	10.0	9.23		mg/L		92	80 - 120
Thallium	0.200	0.199		mg/L		100	80 - 120
Vanadium	0.200	0.203		mg/L		101	80 - 120
Zinc	0.200	0.209		mg/L		104	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-391851/1-A

Matrix: Water

Analysis Batch: 392022

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 391851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/13/17 13:30	12/13/17 17:35	1

Lab Sample ID: LCS 480-391851/2-A

Matrix: Water

Analysis Batch: 392022

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 391851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00667	0.00645		mg/L		97	80 - 120

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-392073/4

Matrix: Water

Analysis Batch: 392073

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	0.073	mg/L			12/14/17 20:42	1
Chloride	ND		0.50	0.28	mg/L			12/14/17 20:42	1
Sulfate	ND		2.0	0.35	mg/L			12/14/17 20:42	1

Lab Sample ID: LCS 480-392073/3

Matrix: Water

Analysis Batch: 392073

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.36		mg/L		107	90 - 110
Chloride	50.0	53.16		mg/L		106	90 - 110
Sulfate	50.0	54.96		mg/L		110	90 - 110

Lab Sample ID: MB 480-392404/5

Matrix: Water

Analysis Batch: 392404

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.28	mg/L			12/19/17 09:58	1
Sulfate	ND		2.0	0.35	mg/L			12/19/17 09:58	1

Lab Sample ID: LCS 480-392404/4

Matrix: Water

Analysis Batch: 392404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.92		mg/L		100	90 - 110
Sulfate	50.0	51.67		mg/L		103	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-391707/123

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/12/17 16:29	1

Lab Sample ID: MB 480-391707/147

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/12/17 16:50	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-391707/124

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.995		mg/L		100	90 - 110

Lab Sample ID: LCS 480-391707/148

Matrix: Water

Analysis Batch: 391707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.987		mg/L		99	90 - 110

Lab Sample ID: MB 480-392116/123

Matrix: Water

Analysis Batch: 392116

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/14/17 15:27	1

Lab Sample ID: LCS 480-392116/124

Matrix: Water

Analysis Batch: 392116

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.05		mg/L		105	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-392162/27

Matrix: Water

Analysis Batch: 392162

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/14/17 19:30	1

Lab Sample ID: MB 480-392162/51

Matrix: Water

Analysis Batch: 392162

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/14/17 19:30	1

Lab Sample ID: MB 480-392162/75

Matrix: Water

Analysis Batch: 392162

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/14/17 19:30	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 480-392162/28

Matrix: Water

Analysis Batch: 392162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	23.07		mg/L		92	90 - 110

Lab Sample ID: LCS 480-392162/52

Matrix: Water

Analysis Batch: 392162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.05		mg/L		104	90 - 110

Lab Sample ID: LCS 480-392162/76

Matrix: Water

Analysis Batch: 392162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	22.77		mg/L		91	90 - 110

Lab Sample ID: MB 480-393051/27

Matrix: Water

Analysis Batch: 393051

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	6.66	J	10.0	5.0	mg/L			12/20/17 19:05	1

Lab Sample ID: MB 480-393051/3

Matrix: Water

Analysis Batch: 393051

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			12/20/17 19:05	1

Lab Sample ID: LCS 480-393051/28

Matrix: Water

Analysis Batch: 393051

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	23.97		mg/L		96	90 - 110

Lab Sample ID: LCS 480-393051/4

Matrix: Water

Analysis Batch: 393051

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.05		mg/L		104	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

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

Lab Sample ID: MB 480-391655/4

Matrix: Water

Analysis Batch: 391655

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.476	J	1.0	0.43	mg/L	-		12/11/17 18:51	1

Lab Sample ID: LCS 480-391655/5

Matrix: Water

Analysis Batch: 391655

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	60.0	57.27		mg/L	-	95	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-391945/30

Matrix: Water

Analysis Batch: 391945

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L	-		12/13/17 14:06	1

Lab Sample ID: MB 480-391945/7

Matrix: Water

Analysis Batch: 391945

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0	0.79	mg/L	-		12/13/17 11:29	1

Lab Sample ID: LCS 480-391945/31

Matrix: Water

Analysis Batch: 391945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	95.08		mg/L	-	95	90 - 110

Lab Sample ID: LCS 480-391945/8

Matrix: Water

Analysis Batch: 391945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	94.82		mg/L	-	95	90 - 110

Method: SM 2340C - Hardness, Total (mg/l as CaCO3)

Lab Sample ID: MB 480-392620/3

Matrix: Water

Analysis Batch: 392620

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L	-		12/18/17 17:45	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method: SM 2340C - Hardness, Total (mg/l as CaCO3) (Continued)

Lab Sample ID: LCS 480-392620/4

Matrix: Water

Analysis Batch: 392620

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	213	208.0		mg/L		98	90 - 110

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

Lab Sample ID: MB 480-391527/1

Matrix: Water

Analysis Batch: 391527

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0	4.0	mg/L			12/11/17 18:44	1

Lab Sample ID: LCS 480-391527/2

Matrix: Water

Analysis Batch: 391527

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	515	517.0		mg/L		100	85 - 115

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

GC/MS VOA

Analysis Batch: 482588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	8260C	
480-128714-2	8-WAY-001-002-02	Total/NA	Water	8260C	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	8260C	
480-128714-5	8-WAY-001-002-05	Total/NA	Water	8260C	
MB 490-482588/7	Method Blank	Total/NA	Water	8260C	
LCS 490-482588/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 483895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	3510C	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	3510C	
MB 460-483895/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-483895/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 460-483895/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-483895/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 484050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-3	8-WAY-001-002-03	Total/NA	Water	8270D	483895
MB 460-483895/1-A	Method Blank	Total/NA	Water	8270D	483895
LCS 460-483895/2-A	Lab Control Sample	Total/NA	Water	8270D	483895

Analysis Batch: 484085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	8270D SIM	483895
480-128714-3	8-WAY-001-002-03	Total/NA	Water	8270D SIM	483895
MB 460-483895/1-A	Method Blank	Total/NA	Water	8270D SIM	483895
LCS 460-483895/4-A	Lab Control Sample	Total/NA	Water	8270D SIM	483895
LCSD 460-483895/5-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	483895

Analysis Batch: 484196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	8270D	483895

LCMS

Prep Batch: 199446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	3535	
480-128714-2 - DL	8-WAY-001-002-02	Total/NA	Water	3535	
480-128714-2	8-WAY-001-002-02	Total/NA	Water	3535	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	3535	
480-128714-3 - DL	8-WAY-001-002-03	Total/NA	Water	3535	
480-128714-4	8-WAY-001-002-04	Total/NA	Water	3535	
480-128714-6	8-WAY-001-002-06	Total/NA	Water	3535	
MB 320-199446/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-199446/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-199446/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

LCMS (Continued)

Analysis Batch: 199649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	537 (modified)	199446
480-128714-2	8-WAY-001-002-02	Total/NA	Water	537 (modified)	199446
480-128714-3	8-WAY-001-002-03	Total/NA	Water	537 (modified)	199446
480-128714-4	8-WAY-001-002-04	Total/NA	Water	537 (modified)	199446
480-128714-6	8-WAY-001-002-06	Total/NA	Water	537 (modified)	199446
MB 320-199446/1-A	Method Blank	Total/NA	Water	537 (modified)	199446
LCS 320-199446/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	199446
LCSD 320-199446/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	199446

Analysis Batch: 200476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-2 - DL	8-WAY-001-002-02	Total/NA	Water	537 (modified)	199446
480-128714-3 - DL	8-WAY-001-002-03	Total/NA	Water	537 (modified)	199446

Metals

Prep Batch: 391502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	3005A	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	3005A	
MB 480-391502/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-391502/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 391778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	6010C	391502
480-128714-1	8-WAY-001-002-01	Total/NA	Water	6010C	391502
480-128714-3	8-WAY-001-002-03	Total/NA	Water	6010C	391502
MB 480-391502/1-A	Method Blank	Total/NA	Water	6010C	391502
LCS 480-391502/2-A	Lab Control Sample	Total/NA	Water	6010C	391502

Prep Batch: 391851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	7470A	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	7470A	
MB 480-391851/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-391851/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 392022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	7470A	391851
480-128714-3	8-WAY-001-002-03	Total/NA	Water	7470A	391851
MB 480-391851/1-A	Method Blank	Total/NA	Water	7470A	391851
LCS 480-391851/2-A	Lab Control Sample	Total/NA	Water	7470A	391851

General Chemistry

Analysis Batch: 391527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	SM 2540C	

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

General Chemistry (Continued)

Analysis Batch: 391527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-2	8-WAY-001-002-02	Total/NA	Water	SM 2540C	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	SM 2540C	
MB 480-391527/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 480-391527/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 391655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	9060A	
480-128714-2	8-WAY-001-002-02	Total/NA	Water	9060A	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	9060A	
MB 480-391655/4	Method Blank	Total/NA	Water	9060A	
LCS 480-391655/5	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 391707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-3	8-WAY-001-002-03	Total/NA	Water	350.1	
MB 480-391707/123	Method Blank	Total/NA	Water	350.1	
MB 480-391707/147	Method Blank	Total/NA	Water	350.1	
LCS 480-391707/124	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-391707/148	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 391945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	SM 2320B	
480-128714-2	8-WAY-001-002-02	Total/NA	Water	SM 2320B	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	SM 2320B	
MB 480-391945/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-391945/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-391945/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 480-391945/8	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 392073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	300.0	
480-128714-2	8-WAY-001-002-02	Total/NA	Water	300.0	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	300.0	
MB 480-392073/4	Method Blank	Total/NA	Water	300.0	
LCS 480-392073/3	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 392116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	350.1	
MB 480-392116/123	Method Blank	Total/NA	Water	350.1	
LCS 480-392116/124	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 392162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-3	8-WAY-001-002-03	Total/NA	Water	410.4	
MB 480-392162/27	Method Blank	Total/NA	Water	410.4	
MB 480-392162/51	Method Blank	Total/NA	Water	410.4	
MB 480-392162/75	Method Blank	Total/NA	Water	410.4	

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

General Chemistry (Continued)

Analysis Batch: 392162 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-392162/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-392162/52	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-392162/76	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 392404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-2	8-WAY-001-002-02	Total/NA	Water	300.0	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	300.0	
MB 480-392404/5	Method Blank	Total/NA	Water	300.0	
LCS 480-392404/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 392620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	SM 2340C	
480-128714-3	8-WAY-001-002-03	Total/NA	Water	SM 2340C	
MB 480-392620/3	Method Blank	Total/NA	Water	SM 2340C	
LCS 480-392620/4	Lab Control Sample	Total/NA	Water	SM 2340C	

Analysis Batch: 393051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-128714-1	8-WAY-001-002-01	Total/NA	Water	410.4	
MB 480-393051/27	Method Blank	Total/NA	Water	410.4	
MB 480-393051/3	Method Blank	Total/NA	Water	410.4	
LCS 480-393051/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-393051/4	Lab Control Sample	Total/NA	Water	410.4	

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-01

Date Collected: 12/08/17 10:30

Date Received: 12/09/17 01:15

Lab Sample ID: 480-128714-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482588	12/12/17 20:51	SW1	TAL NSH
Total/NA	Prep	3510C			483895	12/13/17 09:15	ANM	TAL EDI
Total/NA	Analysis	8270D		1	484196	12/14/17 13:14	DAN	TAL EDI
Total/NA	Prep	3510C			483895	12/13/17 09:15	ANM	TAL EDI
Total/NA	Analysis	8270D SIM		1	484085	12/14/17 03:59	SK	TAL EDI
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/12/17 23:56	ABH	TAL SAC
Total/NA	Prep	3005A			391502	12/12/17 08:25	EMB	TAL BUF
Total/NA	Analysis	6010C		1	391778	12/12/17 17:58	LMH	TAL BUF
Total/NA	Prep	3005A			391502	12/12/17 08:25	EMB	TAL BUF
Total/NA	Analysis	6010C		5	391778	12/12/17 18:02	LMH	TAL BUF
Total/NA	Prep	7470A			391851	12/13/17 13:30	BMB	TAL BUF
Total/NA	Analysis	7470A		1	392022	12/13/17 17:59	BMB	TAL BUF
Total/NA	Analysis	300.0		5	392073	12/14/17 23:37	CLA	TAL BUF
Total/NA	Analysis	350.1		5	392116	12/14/17 15:29	SSS	TAL BUF
Total/NA	Analysis	410.4		20	393051	12/20/17 19:05	CDC	TAL BUF
Total/NA	Analysis	9060A		1	391655	12/12/17 03:15	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	391945	12/13/17 11:46	ALZ	TAL BUF
Total/NA	Analysis	SM 2340C		1	392620	12/18/17 17:45	DCB	TAL BUF
Total/NA	Analysis	SM 2540C		1	391527	12/11/17 18:44	CDC	TAL BUF

Client Sample ID: 8-WAY-001-002-02

Date Collected: 12/08/17 11:00

Date Received: 12/09/17 01:15

Lab Sample ID: 480-128714-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482588	12/12/17 21:18	SW1	TAL NSH
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/13/17 00:04	ABH	TAL SAC
Total/NA	Prep	3535	DL		199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5	200476	12/18/17 20:23	ABH	TAL SAC
Total/NA	Analysis	300.0		10	392073	12/14/17 23:51	CLA	TAL BUF
Total/NA	Analysis	300.0		10	392404	12/19/17 11:27	RJS	TAL BUF
Total/NA	Analysis	9060A		1	391655	12/12/17 03:45	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	391945	12/13/17 11:56	ALZ	TAL BUF
Total/NA	Analysis	SM 2540C		1	391527	12/11/17 18:44	CDC	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-03

Lab Sample ID: 480-128714-3

Date Collected: 12/08/17 11:30

Matrix: Water

Date Received: 12/09/17 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482588	12/12/17 21:45	SW1	TAL NSH
Total/NA	Prep	3510C			483895	12/13/17 09:15	ANM	TAL EDI
Total/NA	Analysis	8270D		1	484050	12/14/17 05:32	DAN	TAL EDI
Total/NA	Prep	3510C			483895	12/13/17 09:15	ANM	TAL EDI
Total/NA	Analysis	8270D SIM		1	484085	12/14/17 04:27	SK	TAL EDI
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/13/17 00:20	ABH	TAL SAC
Total/NA	Prep	3535	DL		199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5	200476	12/18/17 20:31	ABH	TAL SAC
Total/NA	Prep	3005A			391502	12/12/17 08:25	EMB	TAL BUF
Total/NA	Analysis	6010C		1	391778	12/12/17 18:20	LMH	TAL BUF
Total/NA	Prep	7470A			391851	12/13/17 13:30	BMB	TAL BUF
Total/NA	Analysis	7470A		1	392022	12/13/17 18:01	BMB	TAL BUF
Total/NA	Analysis	300.0		10	392073	12/15/17 00:06	CLA	TAL BUF
Total/NA	Analysis	300.0		10	392404	12/19/17 11:35	RJS	TAL BUF
Total/NA	Analysis	350.1		2	391707	12/12/17 16:47	SSS	TAL BUF
Total/NA	Analysis	410.4		100	392162	12/14/17 19:30	DCB	TAL BUF
Total/NA	Analysis	9060A		1	391655	12/12/17 04:15	EKB	TAL BUF
Total/NA	Analysis	SM 2320B		1	391945	12/13/17 12:08	ALZ	TAL BUF
Total/NA	Analysis	SM 2340C		1	392620	12/18/17 17:45	DCB	TAL BUF
Total/NA	Analysis	SM 2540C		1	391527	12/11/17 18:44	CDC	TAL BUF

Client Sample ID: 8-WAY-001-002-04

Lab Sample ID: 480-128714-4

Date Collected: 12/08/17 11:35

Matrix: Water

Date Received: 12/09/17 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/13/17 00:28	ABH	TAL SAC

Client Sample ID: 8-WAY-001-002-05

Lab Sample ID: 480-128714-5

Date Collected: 12/08/17 11:40

Matrix: Water

Date Received: 12/09/17 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482588	12/12/17 19:58	SW1	TAL NSH

TestAmerica Buffalo

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Client Sample ID: 8-WAY-001-002-06

Lab Sample ID: 480-128714-6

Date Collected: 12/08/17 11:50

Matrix: Water

Date Received: 12/09/17 01:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			199446	12/12/17 08:31	CCB	TAL SAC
Total/NA	Analysis	537 (modified)		1	199649	12/13/17 00:36	ABH	TAL SAC

Laboratory References:

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

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

Laboratory: TestAmerica Edison

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11452	04-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3510C	Water	Benzo[g,h,i]perylene
8270D SIM	3510C	Water	Naphthalene

Laboratory: TestAmerica Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17 *
A2LA	ISO/IEC 17025		0453.07	12-31-17 *
Alaska (UST)	State Program	10	UST-087	01-01-18 *
Arizona	State Program	9	AZ0473	05-05-18
Arkansas DEQ	State Program	6	88-0737	04-25-18
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17 *
Florida	NELAP	4	E87358	06-30-18
Georgia	State Program	4	E87358(FL)/453.07(A2L A)	06-30-18
Illinois	NELAP	5	200010	12-09-18
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	12-31-17 *
Kentucky (UST)	State Program	4	19	06-30-18
Kentucky (WW)	State Program	4	90038	12-31-17 *
Louisiana	NELAP	6	30613	06-30-18
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-18
Minnesota	NELAP	5	047-999-345	12-31-17 *
Mississippi	State Program	4	N/A	06-30-18
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-18
New Hampshire	NELAP	1	2963	10-09-18
New Jersey	NELAP	2	TN965	06-30-18
New York	NELAP	2	11342	03-31-18
North Carolina (WW/SW)	State Program	4	387	12-31-17 *
North Dakota	State Program	8	R-146	06-30-18
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-18
Oregon	NELAP	10	TN200001	04-27-18
Pennsylvania	NELAP	3	68-00585	06-30-18
Rhode Island	State Program	1	LAO00268	12-30-17 *
South Carolina	State Program	4	84009 (001)	02-28-18
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Buffalo

Accreditation/Certification Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Laboratory: TestAmerica Nashville (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-18
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-18
Virginia	NELAP	3	460152	06-14-18
Washington	State Program	10	C789	07-19-18
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-18
Wyoming (UST)	A2LA	8	453.07	12-31-19

Laboratory: TestAmerica Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11666	04-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic Acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL NSH
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL EDI
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL EDI
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
410.4	COD	MCAWW	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 2340C	Hardness, Total (mg/l as CaCO ₃)	SM	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-128714-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-128714-1	8-WAY-001-002-01	Water	12/08/17 10:30	12/09/17 01:15
480-128714-2	8-WAY-001-002-02	Water	12/08/17 11:00	12/09/17 01:15
480-128714-3	8-WAY-001-002-03	Water	12/08/17 11:30	12/09/17 01:15
480-128714-4	8-WAY-001-002-04	Water	12/08/17 11:35	12/09/17 01:15
480-128714-5	8-WAY-001-002-05	Water	12/08/17 11:40	12/09/17 01:15
480-128714-6	8-WAY-001-002-06	Water	12/08/17 11:50	12/09/17 01:15

CHAIN-OF-CUSTODY/Analytical Request Document

CHAIN-OF-CUSTODY/Analytical Request Document									
Section A			Section B			Section C		COC #:	
Required Client Information:			Required Project Information:			Invoice Information:		REGULATORY AGENCY	
Company:	Parsons	NYSEDC	Report To:	George Moreau		Attention:	Orlette Johnson	☐ NPDES	☐ Ground
Address:	301 Plainfield Road, Suite 350		Copy To:	Lorraine Weber		Company Name:	Testamerica, Inc.-Buffalo	☐ Drinking	☐ Water
	Syracuse, NY 13212			Lorraine.Weber@Parsons.com		Address:	10 Hazelwood Drive	☐ RCRA	☐ Other
Email To:	George.Moreau@Parsons.com		Purchase Order No.:				Amherst, NY 14228-2298		
Phone: (315) 552-9715			Project Name:	NYSEDC-ILI		Phone:	(484) 685-0868	Site Location:	Palmyra L.F.
Fax:			Project Number:	450619.09000		Email:	Judy.Stone@testamerica.com	State:	NY
Requested Due Date/TAT:						Preservative (for waters only):			

Data Package Request: Level 2, Level 4, and EDD (NYSDEC EquUs format)									
Section D		Valid Sample Matrix Codes:							
Required Client Information:		MATRIX: CODE:				MATRIX: CODE:			
		Ground Water	WG	Outdoor Ambient Air	AO	Sediment	SE	Indoor Ambient Air	AI
		Surface Water	WS	Soil	SO	Waste Water	WW	Tissue	TS
		Leachate	WL	Blank	BQ				
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
8-WAT-001-SEEP-01			8-WAT-001-002-01	12/8/17	1030	N	WL	SW	15
8-WAT-001-SEEP-02			8-WAT-001-002-02	12/8/17	1100	N	WL	SW	15
8-WAT-001-SEEP-03			8-WAT-001-002-03	12/8/17	1130	N	WL	SW	15
Field QC			8-WAT-001-002-04	12/8/17	1135	FB	WQ	QC	2
Field QC			8-WAT-001-002-05	12/8/17	1140	TB	WQ	QC	2
Field QC			8-WAT-001-002-06	12/8/17	1150	EB	WQ	QC	2
									
12-8-17									

Special Instructions:

Samplers Name:	Company	Relinquished By:	Company	Cooler Temp.	Custody Seals Intact Y/N
KOMTUSE Creek	PURVIS		PURVIS		
	Date/Time 12/8/17	Red Seal	Date/Time 12/8/17	Rec'd on Ice: Y/N	Samples Intact Y/N
	Shipment Tracking No	Accepted By:	Company	Cooler Temp.	Custody Seals Intact Y/N
Rec'd. R	Date/Time 12-5-17		Date/Time 12-5-17	Rec'd on Ice: Y/N	Samples Intact Y/N

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

Date Printed: 10/24/2017 REZINGO: R'FENGULI 14, 12-8-17, 19:00
PF-CR → SAC, BAL → BURE.

7X13 12-9-17 0115

Page 1 of 1

COOLER RECEIPT FORM



480-128714 Chain of Custody

Cooler Received/Opened On 12-12-2017 @ 09:55

Time Samples Removed From Cooler 1342 Time Samples Placed In Storage 13: (2 Hour Window)

1. Tracking # 5371 (last 4 digits, FedEx) Courier: FedEx
IR Gun ID 31470366 pH Strip Lot _____ Chlorine Strip Lot _____

2. Temperature of rep. sample or temp blank when opened: 6.0 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 (Front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) JK

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



Larger than this.

14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) ZZ

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) ZZ

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) ZZ

I certify that I attached a label with the unique LIMS number to each container (initial) ZZ

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

Loc: 480

128714

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Lab Pmt: Johnson, Orlette S					
Shipping/Receiving		E-Mail: orlette.johnson@testamericainc.com					
Company:		Accreditations Required (See note): NELAP - New York					
Address: 2960 Foster Creighton Drive, City: Nashville State Zip: TN, 37204 Phone: 615-726-0177(Tel) 615-726-3404(Fax) Email:		COC No: 480-39534.1 Page: Page 1 of 1 Job #: 480-128714-1					
Project Name: NYSDEC ILI Site:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ios J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2CO4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - PH 4-5 Z - other (specify) Other:					
Due Date Requested: 12/20/2017 TAT Requested (days):		Analysis Requested					
PO #:							
WO #:							
Project #: 48016945							
SSOW#:							
Field Filtered Sample (Yes or No)							
Perforated MS/MSB (Yes or No)							
2860C/6030C (MOD) NY Part 376 Compound List							
Sample Identification - Client ID (Lab ID)		Total Number of Containers	Special Instructions/Note:				
8-WAY-001-002-01 (480-128714-1)	Sample Date 12/8/17	Sample Time 10:30 Eastern	Sample Type (G=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, A=Air)	X	3	
8-WAY-001-002-02 (480-128714-2)	12/8/17	11:00 Eastern		Water	X	3	
8-WAY-001-002-03 (480-128714-3)	12/8/17	11:30 Eastern		Water	X	3	
8-WAY-001-002-05 (480-128714-5)	12/8/17	11:40 Eastern		Water	X	2	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica Laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.							
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2							
Empty Kit Relinquished by:							
Relinquished by: [Signature] Relinquished by:							
Relinquished by:							
Custody Seals Intact: [X] Yes [] No							
Custody Seal No.: 6.0							

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sa



480-128714 Field Sheet

Tracking # A144 3191 1960 P.O.

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations:
File in the job folder with the COC.

Notes:

Therm. ID: AK-2 / AK-3 / HACCP: / Other _____

Ice ☒ Wet ☒ Dry _____ Other _____

Cooler Custody Seal: Seal

Sample Custody Seal: _____

Cooler ID: _____

Temp: Observed 2.7°C

Corrected: _____

From: Temp Blank ☒ Sample ☐
NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace?	☐	☐	☒
CoC is complete w/o discrepancies?	☒	☐	☐
Samples received within holding time?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Cooler compromised/tampered with?	☐	☒	☐
Samples compromised/tampered with?	☐	☒	☐
COC and Samples w/o discrepancies?	☒	☐	☐
Sample containers have legible labels?	☒	☐	☐
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided.	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

Initials: AA Date: 12/09/17

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

INFOTRAC (800) 535-5053
TESTAMERICA (716) 691-2600

ORIGIN ID:SYRA (315) 431-0171
SYR SERVICE CENTER
TESTAMERICA
118 BOSS RD

SHIP DATE: 08DEC17
ACTWGT: 25.00 LB MAN
CAD: 251798/CAFE3108

SYRACUSE, NY 13211
UNITED STATES US

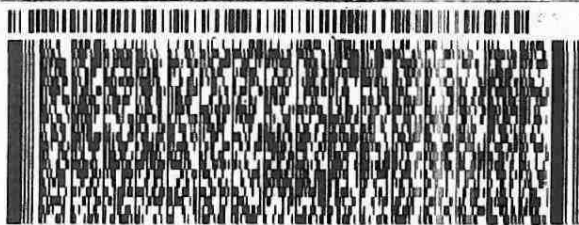
BILL RECIPIENT

TO **SAMPLE RECIEVING**
TESTAMERICA W. SACRAMENTO
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605

(916) 373-6600

REF: PARSONS PALMYRA 1COOLER



FedEx
Express



546C1/574C/53C1

TRK# 4144 3191 1960
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO BLUA

95605
CA-US SMF



12:00
1

362

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-128714-1

Login Number: 128714

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	PARSONS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-128714-1

Login Number: 128714

List Number: 3

Creator: Armbruster, Chris

List Source: TestAmerica Edison

List Creation: 12/12/17 01:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	009339
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8°C IR9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-128714-1

Login Number: 128714

List Number: 2

Creator: Her, David A

List Source: TestAmerica Sacramento

List Creation: 12/11/17 05:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-129214-1

Client Project/Site: Palmyra LF

For:

Parsons Corporation

301 Plainfield Road

Suite 350

Syracuse, New York 13212

Attn: Sara Weishaupt



Authorized for release by:

1/5/2018 10:22:26 AM

Orlette Johnson, Senior Project Manager

(484)685-0864

orlette.johnson@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Job ID: 480-129214-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative 480-129214-1

Receipt

The samples were received on 12/20/2017 1:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

GC/MS Semi VOA

Method(s) 8270D SIM: The continuing calibration verification (CCV) analyzed in batch 460-487208 was outside the method criteria for the following analyte(s): Naphthalene, Fluoranthene and Phenanthrene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

Metals

Method(s) 3005A: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: 8-WAY-001-003-01 (480-129214-1). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 7470A: Due to interference with the sample matrix, the standard mercury preparation procedure was inadequate for the following sample: 8-WAY-001-003-01 (480-129214-1). This was demonstrated when the potassium permanganate reagent was added and the characteristic purple color faded rapidly. This loss of color indicates oxidizing conditions were not maintained. The sample(s) was prepared and analyzed at a <1:5> dilution, which maintained the purple color during digestion.

Method(s) 6010C: The Low Level Continuing Calibration Verification, (CCVL 480-394041/19) associated with batch 480-394041, contained Total Potassium above the upper quality control limit. The associated samples were either below the reporting limit for the affected analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples (LCS 480-392978/2-A), (LCSD 480-392978/3-A) and (MB 480-392978/1-A) was not performed.

Method(s) 6010C: The Low Level Continuing Calibration Verification, (CCVL 480-394041/31) associated with batch 480-394041, contained Total Potassium and Manganese above the upper quality control limit. The associated samples were either below the reporting limit (RL) for the affected analytes or contained these analytes at concentrations greater than 10X the values found in the CCVL; therefore, re-analysis of samples (LCS 480-392978/2-A), (LCSD 480-392978/3-A) and (MB 480-392978/1-A) was not performed.

Method(s) 6010C: The following sample was diluted due to the presence of Total Iron which interferes with Total Silver, Cadmium, Cobalt, Chromium, Manganese, Nickel, Lead, Vanadium, and Zinc: 8-WAY-001-003-01 (480-129214-1). Elevated reporting limits (RLs) are provided.

Method(s) 6010C: The Low Level Continuing Calibration Verification, (CCVL 480-394217/37) associated with batch 480-394217, contained Total Iron above the upper quality control limit. The associated samples were either ND for the affected analyte or contained this analyte at a concentration greater than 10X the value found in the CCVL; therefore, re-analysis of samples 8-WAY-001-003-01 (480-129214-1) was not performed.

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

General Chemistry

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

Organic Prep

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

Detection Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Client Sample ID: 8-WAY-001-003-01

Lab Sample ID: 480-129214-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Fluoranthene	0.044	J	0.051	0.018	ug/L	1			8270D SIM	Total/NA
Naphthalene	0.12	*	0.051	0.020	ug/L	1			8270D SIM	Total/NA
Phenanthrene	0.18		0.051	0.023	ug/L	1			8270D SIM	Total/NA
Pyrene	0.048	J	0.051	0.024	ug/L	1			8270D SIM	Total/NA
Aluminum	226		1.0	0.30	mg/L	1			6010C	Total/NA
Arsenic	2.0		0.075	0.028	mg/L	1			6010C	Total/NA
Barium	20.0		0.010	0.0035	mg/L	1			6010C	Total/NA
Beryllium	0.0099	J	0.010	0.0015	mg/L	1			6010C	Total/NA
Boron	3.1		0.10	0.020	mg/L	1			6010C	Total/NA
Cadmium	0.019	J	0.050	0.013	mg/L	5			6010C	Total/NA
Calcium	2280		2.5	0.50	mg/L	1			6010C	Total/NA
Chromium	0.33		0.10	0.025	mg/L	5			6010C	Total/NA
Cobalt	0.26		0.10	0.016	mg/L	5			6010C	Total/NA
Copper	1.2		0.050	0.0080	mg/L	1			6010C	Total/NA
Iron	3330	^	1.3	0.48	mg/L	5			6010C	Total/NA
Lead	1.3		0.25	0.075	mg/L	5			6010C	Total/NA
Magnesium	515		1.0	0.22	mg/L	1			6010C	Total/NA
Manganese	66.6		0.075	0.010	mg/L	5			6010C	Total/NA
Nickel	0.43		0.25	0.032	mg/L	5			6010C	Total/NA
Potassium	107	B	2.5	0.50	mg/L	1			6010C	Total/NA
Sodium	203		5.0	1.6	mg/L	1			6010C	Total/NA
Vanadium	0.48		0.13	0.038	mg/L	5			6010C	Total/NA
Zinc	4.0		0.25	0.038	mg/L	5			6010C	Total/NA
Mercury	0.0018		0.0010	0.00060	mg/L	1			7470A	Total/NA
Ammonia	0.68		0.020	0.0090	mg/L	1			350.1	Total/NA
Chemical Oxygen Demand	616	B	100	50.0	mg/L	10			410.4	Total/NA
Total hardness as CaCO3	1900		20.0	5.3	mg/L	1			SM 2340C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Client Sample ID: 8-WAY-001-003-01

Lab Sample ID: 480-129214-1

Date Collected: 12/19/17 12:50

Matrix: Water

Date Received: 12/20/17 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.051	0.027	ug/L		12/26/17 15:13	12/27/17 03:12	1
Acenaphthylene	ND		0.051	0.014	ug/L		12/26/17 15:13	12/27/17 03:12	1
Anthracene	ND		0.051	0.011	ug/L		12/26/17 15:13	12/27/17 03:12	1
Benzo[a]anthracene	ND		0.051	0.018	ug/L		12/26/17 15:13	12/27/17 03:12	1
Benzo[a]pyrene	ND		0.051	0.026	ug/L		12/26/17 15:13	12/27/17 03:12	1
Benzo[b]fluoranthene	ND		0.051	0.019	ug/L		12/26/17 15:13	12/27/17 03:12	1
Benzo[g,h,i]perylene	ND		0.051	0.031	ug/L		12/26/17 15:13	12/27/17 03:12	1
Benzo[k]fluoranthene	ND		0.051	0.029	ug/L		12/26/17 15:13	12/27/17 03:12	1
Chrysene	ND		0.051	0.019	ug/L		12/26/17 15:13	12/27/17 03:12	1
Dibenz(a,h)anthracene	ND		0.051	0.038	ug/L		12/26/17 15:13	12/27/17 03:12	1
1,4-Dioxane	ND		0.41	0.045	ug/L		12/26/17 15:13	12/27/17 03:12	1
Fluoranthene	0.044	J	0.051	0.018	ug/L		12/26/17 15:13	12/27/17 03:12	1
Fluorene	ND		0.051	0.016	ug/L		12/26/17 15:13	12/27/17 03:12	1
Indeno[1,2,3-cd]pyrene	ND		0.051	0.021	ug/L		12/26/17 15:13	12/27/17 03:12	1
Naphthalene	0.12	*	0.051	0.020	ug/L		12/26/17 15:13	12/27/17 03:12	1
Phenanthrene	0.18		0.051	0.023	ug/L		12/26/17 15:13	12/27/17 03:12	1
Pyrene	0.048	J	0.051	0.024	ug/L		12/26/17 15:13	12/27/17 03:12	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	80		45 - 107	12/26/17 15:13	12/28/17 22:25	1
2-Fluorophenol (Surr)	26		25 - 58	12/26/17 15:13	12/28/17 22:25	1
Nitrobenzene-d5 (Surr)	87		51 - 108	12/26/17 15:13	12/28/17 22:25	1
Phenol-d5 (Surr)	15		14 - 39	12/26/17 15:13	12/28/17 22:25	1
Terphenyl-d14 (Surr)	64		40 - 148	12/26/17 15:13	12/28/17 22:25	1
2,4,6-Tribromophenol (Surr)	90		26 - 139	12/26/17 15:13	12/28/17 22:25	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	226		1.0	0.30	mg/L		12/21/17 08:55	12/28/17 21:00	1
Antimony	ND		0.50	0.17	mg/L		12/21/17 08:55	12/28/17 21:04	5
Arsenic	2.0		0.075	0.028	mg/L		12/21/17 08:55	12/28/17 21:00	1
Barium	20.0		0.010	0.0035	mg/L		12/21/17 08:55	12/28/17 21:00	1
Beryllium	0.0099	J	0.010	0.0015	mg/L		12/21/17 08:55	12/28/17 21:00	1
Boron	3.1		0.10	0.020	mg/L		12/21/17 08:55	12/28/17 21:00	1
Cadmium	0.019	J	0.050	0.013	mg/L		12/21/17 08:55	12/28/17 21:04	5
Calcium	2280		2.5	0.50	mg/L		12/21/17 08:55	12/28/17 21:00	1
Chromium	0.33		0.10	0.025	mg/L		12/21/17 08:55	12/28/17 21:04	5
Cobalt	0.26		0.10	0.016	mg/L		12/21/17 08:55	12/28/17 21:04	5
Copper	1.2		0.050	0.0080	mg/L		12/21/17 08:55	12/28/17 21:00	1
Iron	3330	^	1.3	0.48	mg/L		12/21/17 08:55	12/29/17 17:05	5
Lead	1.3		0.25	0.075	mg/L		12/21/17 08:55	12/28/17 21:04	5
Magnesium	515		1.0	0.22	mg/L		12/21/17 08:55	12/29/17 17:01	1
Manganese	66.6		0.075	0.010	mg/L		12/21/17 08:55	12/29/17 17:05	5
Nickel	0.43		0.25	0.032	mg/L		12/21/17 08:55	12/28/17 21:04	5
Potassium	107	B	2.5	0.50	mg/L		12/21/17 08:55	12/29/17 17:01	1
Selenium	ND		0.13	0.044	mg/L		12/21/17 08:55	12/28/17 21:00	1
Silver	ND		0.15	0.043	mg/L		12/21/17 08:55	12/28/17 21:04	5
Sodium	203		5.0	1.6	mg/L		12/21/17 08:55	12/28/17 21:00	1

TestAmerica Buffalo

Client Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Client Sample ID: 8-WAY-001-003-01

Lab Sample ID: 480-129214-1

Date Collected: 12/19/17 12:50

Matrix: Water

Date Received: 12/20/17 01:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.10	0.051	mg/L		12/21/17 08:55	12/28/17 21:00	1
Vanadium	0.48		0.13	0.038	mg/L		12/21/17 08:55	12/28/17 21:04	5
Zinc	4.0		0.25	0.038	mg/L		12/21/17 08:55	12/28/17 21:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0018		0.0010	0.00060	mg/L		12/26/17 13:00	12/26/17 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.68		0.020	0.0090	mg/L			12/21/17 15:12	1
Chemical Oxygen Demand	616	B	100	50.0	mg/L			12/28/17 20:27	10
Total hardness as CaCO3	1900		20.0	5.3	mg/L			01/02/18 16:09	1

Surrogate Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (45-107)	2FP (25-58)	NBZ (51-108)	PHL (14-39)	TPHL (40-148)	TBP (26-139)
480-129214-1	8-WAY-001-003-01	80	26	87	15	64	90
LCS 460-487125/2-A	Lab Control Sample	78	23 X	82	15	94	107
LCSD 460-487125/3-A	Lab Control Sample Dup	77	26	82	16	94	108

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 460-487125/2-A

Matrix: Water

Analysis Batch: 487349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 487125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	80.0	67.2		ug/L		84	58 - 107
Acenaphthylene	80.0	65.5		ug/L		82	61 - 106
Anthracene	80.0	67.0		ug/L		84	70 - 118
Benzo[a]anthracene	80.0	71.2		ug/L		89	73 - 119
Benzo[a]pyrene	80.0	82.3		ug/L		103	76 - 125
Benzo[b]fluoranthene	80.0	82.0		ug/L		103	78 - 123
Benzo[g,h,i]perylene	80.0	69.9		ug/L		87	63 - 133
Benzo[k]fluoranthene	80.0	75.4		ug/L		94	71 - 126
Chrysene	80.0	70.5		ug/L		88	73 - 121
Dibenz(a,h)anthracene	80.0	77.6		ug/L		97	59 - 136
1,4-Dioxane	80.0	24.0		ug/L		30	25 - 66
Fluoranthene	80.0	72.9		ug/L		91	66 - 123
Fluorene	80.0	72.6		ug/L		91	67 - 112
Indeno[1,2,3-cd]pyrene	80.0	76.8		ug/L		96	57 - 142
Naphthalene	80.0	62.6		ug/L		78	51 - 98
Phenanthrene	80.0	68.9		ug/L		86	70 - 117
Pyrene	80.0	70.3		ug/L		88	63 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	78		45 - 107
2-Fluorophenol (Surr)	23	X	25 - 58
Nitrobenzene-d5 (Surr)	82		51 - 108
Phenol-d5 (Surr)	15		14 - 39
Terphenyl-d14 (Surr)	94		40 - 148
2,4,6-Tribromophenol (Surr)	107		26 - 139

Lab Sample ID: LCSD 460-487125/3-A

Matrix: Water

Analysis Batch: 487349

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 487125

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	80.0	66.8		ug/L		84	58 - 107	1	30
Acenaphthylene	80.0	65.6		ug/L		82	61 - 106	0	30
Anthracene	80.0	69.4		ug/L		87	70 - 118	3	30
Benzo[a]anthracene	80.0	70.3		ug/L		88	73 - 119	1	30
Benzo[a]pyrene	80.0	80.7		ug/L		101	76 - 125	2	30
Benzo[b]fluoranthene	80.0	81.4		ug/L		102	78 - 123	1	30
Benzo[g,h,i]perylene	80.0	69.2		ug/L		86	63 - 133	1	30
Benzo[k]fluoranthene	80.0	76.1		ug/L		95	71 - 126	1	30
Chrysene	80.0	71.1		ug/L		89	73 - 121	1	30
Dibenz(a,h)anthracene	80.0	76.4		ug/L		95	59 - 136	2	30
1,4-Dioxane	80.0	24.0		ug/L		30	25 - 66	0	30
Fluoranthene	80.0	72.5		ug/L		91	66 - 123	1	30
Fluorene	80.0	72.4		ug/L		90	67 - 112	0	30
Indeno[1,2,3-cd]pyrene	80.0	75.8		ug/L		95	57 - 142	1	30
Naphthalene	80.0	61.4		ug/L		77	51 - 98	2	30
Phenanthrene	80.0	68.5		ug/L		86	70 - 117	1	30
Pyrene	80.0	71.1		ug/L		89	63 - 129	1	30

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	77		45 - 107
2-Fluorophenol (Surr)	26		25 - 58
Nitrobenzene-d5 (Surr)	82		51 - 108
Phenol-d5 (Surr)	16		14 - 39
Terphenyl-d14 (Surr)	94		40 - 148
2,4,6-Tribromophenol (Surr)	108		26 - 139

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

Lab Sample ID: MB 460-487125/1-A

Matrix: Water

Analysis Batch: 486828

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 487125

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.050	0.026	ug/L		12/26/17 15:13	12/27/17 15:14	1
Acenaphthylene	ND		0.050	0.014	ug/L		12/26/17 15:13	12/27/17 15:14	1
Anthracene	ND		0.050	0.011	ug/L		12/26/17 15:13	12/27/17 15:14	1
Benzo[a]anthracene	ND		0.050	0.018	ug/L		12/26/17 15:13	12/27/17 15:14	1
Benzo[a]pyrene	ND		0.050	0.025	ug/L		12/26/17 15:13	12/27/17 15:14	1
Benzo[b]fluoranthene	ND		0.050	0.019	ug/L		12/26/17 15:13	12/27/17 15:14	1
Benzo[g,h,i]perylene	ND		0.050	0.030	ug/L		12/26/17 15:13	12/27/17 15:14	1
Benzo[k]fluoranthene	ND		0.050	0.028	ug/L		12/26/17 15:13	12/27/17 15:14	1
Chrysene	ND		0.050	0.019	ug/L		12/26/17 15:13	12/27/17 15:14	1
Dibenz(a,h)anthracene	ND		0.050	0.037	ug/L		12/26/17 15:13	12/27/17 15:14	1
1,4-Dioxane	ND		0.40	0.044	ug/L		12/26/17 15:13	12/27/17 15:14	1
Fluoranthene	ND		0.050	0.018	ug/L		12/26/17 15:13	12/27/17 15:14	1
Fluorene	ND		0.050	0.016	ug/L		12/26/17 15:13	12/27/17 15:14	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.021	ug/L		12/26/17 15:13	12/27/17 15:14	1
Naphthalene	ND		0.050	0.020	ug/L		12/26/17 15:13	12/27/17 15:14	1
Phenanthrene	ND		0.050	0.023	ug/L		12/26/17 15:13	12/27/17 15:14	1
Pyrene	ND		0.050	0.024	ug/L		12/26/17 15:13	12/27/17 15:14	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-392978/1-A

Matrix: Water

Analysis Batch: 394041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 392978

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		0.20	0.060	mg/L		12/21/17 08:55	12/28/17 19:33	1
Antimony	ND		0.020	0.0068	mg/L		12/21/17 08:55	12/28/17 19:33	1
Arsenic	ND		0.015	0.0056	mg/L		12/21/17 08:55	12/28/17 19:33	1
Barium	ND		0.0020	0.00070	mg/L		12/21/17 08:55	12/28/17 19:33	1
Beryllium	ND		0.0020	0.00030	mg/L		12/21/17 08:55	12/28/17 19:33	1
Boron	ND		0.020	0.0040	mg/L		12/21/17 08:55	12/28/17 19:33	1
Cadmium	ND		0.0020	0.00050	mg/L		12/21/17 08:55	12/28/17 19:33	1
Calcium	ND		0.50	0.10	mg/L		12/21/17 08:55	12/28/17 19:33	1
Chromium	ND		0.0040	0.0010	mg/L		12/21/17 08:55	12/28/17 19:33	1
Cobalt	ND		0.0040	0.00063	mg/L		12/21/17 08:55	12/28/17 19:33	1
Copper	ND		0.010	0.0016	mg/L		12/21/17 08:55	12/28/17 19:33	1
Iron	ND		0.050	0.019	mg/L		12/21/17 08:55	12/28/17 19:33	1
Lead	ND		0.010	0.0030	mg/L		12/21/17 08:55	12/28/17 19:33	1
Magnesium	ND		0.20	0.043	mg/L		12/21/17 08:55	12/28/17 19:33	1

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

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

Lab Sample ID: MB 480-392978/1-A

Matrix: Water

Analysis Batch: 394041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 392978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND	^	0.0030	0.00040	mg/L		12/21/17 08:55	12/28/17 19:33	1
Nickel	ND		0.010	0.0013	mg/L		12/21/17 08:55	12/28/17 19:33	1
Potassium	0.124	J ^	0.50	0.10	mg/L		12/21/17 08:55	12/28/17 19:33	1
Selenium	ND		0.025	0.0087	mg/L		12/21/17 08:55	12/28/17 19:33	1
Silver	ND		0.0060	0.0017	mg/L		12/21/17 08:55	12/28/17 19:33	1
Sodium	ND		1.0	0.32	mg/L		12/21/17 08:55	12/28/17 19:33	1
Thallium	ND		0.020	0.010	mg/L		12/21/17 08:55	12/28/17 19:33	1
Vanadium	ND		0.0050	0.0015	mg/L		12/21/17 08:55	12/28/17 19:33	1
Zinc	ND		0.010	0.0015	mg/L		12/21/17 08:55	12/28/17 19:33	1

Lab Sample ID: LCS 480-392978/2-A

Matrix: Water

Analysis Batch: 394041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 392978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	9.84		mg/L		98	80 - 120
Antimony	0.200	0.204		mg/L		102	80 - 120
Arsenic	0.200	0.208		mg/L		104	80 - 120
Barium	0.200	0.197		mg/L		99	80 - 120
Beryllium	0.200	0.195		mg/L		98	80 - 120
Boron	0.200	0.205		mg/L		103	80 - 120
Cadmium	0.200	0.203		mg/L		101	80 - 120
Calcium	10.0	10.12		mg/L		101	80 - 120
Chromium	0.200	0.198		mg/L		99	80 - 120
Cobalt	0.200	0.203		mg/L		102	80 - 120
Copper	0.200	0.196		mg/L		98	80 - 120
Iron	10.0	9.69		mg/L		97	80 - 120
Lead	0.200	0.220		mg/L		110	80 - 120
Magnesium	10.0	10.25		mg/L		102	80 - 120
Manganese	0.200	0.207	^	mg/L		103	80 - 120
Nickel	0.200	0.204		mg/L		102	80 - 120
Potassium	10.0	10.83	^	mg/L		108	80 - 120
Selenium	0.200	0.200		mg/L		100	80 - 120
Silver	0.0500	0.0503		mg/L		101	80 - 120
Sodium	10.0	10.08		mg/L		101	80 - 120
Thallium	0.200	0.205		mg/L		102	80 - 120
Vanadium	0.200	0.197		mg/L		99	80 - 120
Zinc	0.200	0.192		mg/L		96	80 - 120

Lab Sample ID: LCSD 480-392978/3-A

Matrix: Water

Analysis Batch: 394041

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 392978

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	10.0	10.18		mg/L		102	80 - 120	3	20
Antimony	0.200	0.207		mg/L		103	80 - 120	1	20
Arsenic	0.200	0.207		mg/L		104	80 - 120	0	20
Barium	0.200	0.198		mg/L		99	80 - 120	1	20
Beryllium	0.200	0.197		mg/L		99	80 - 120	1	20

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

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

Lab Sample ID: LCSD 480-392978/3-A

Matrix: Water

Analysis Batch: 394041

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 392978

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.200	0.209		mg/L		104	80 - 120	1	20
Cadmium	0.200	0.204		mg/L		102	80 - 120	1	20
Calcium	10.0	10.10		mg/L		101	80 - 120	0	20
Chromium	0.200	0.198		mg/L		99	80 - 120	0	20
Cobalt	0.200	0.203		mg/L		101	80 - 120	0	20
Copper	0.200	0.196		mg/L		98	80 - 120	0	20
Iron	10.0	9.83		mg/L		98	80 - 120	1	20
Lead	0.200	0.218		mg/L		109	80 - 120	1	20
Magnesium	10.0	10.09		mg/L		101	80 - 120	2	20
Manganese	0.200	0.207	^	mg/L		103	80 - 120	0	20
Nickel	0.200	0.206		mg/L		103	80 - 120	1	20
Potassium	10.0	10.95	^	mg/L		109	80 - 120	1	20
Selenium	0.200	0.201		mg/L		100	80 - 120	0	20
Silver	0.0500	0.0496		mg/L		99	80 - 120	1	20
Sodium	10.0	10.50		mg/L		105	80 - 120	4	20
Thallium	0.200	0.203		mg/L		101	80 - 120	1	20
Vanadium	0.200	0.199		mg/L		100	80 - 120	1	20
Zinc	0.200	0.191		mg/L		96	80 - 120	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-393525/1-A

Matrix: Water

Analysis Batch: 393595

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 393525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/26/17 13:00	12/26/17 15:47	1

Lab Sample ID: LCS 480-393525/2-A

Matrix: Water

Analysis Batch: 393595

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00633		mg/L		95	80 - 120

Lab Sample ID: LCSD 480-393525/3-A

Matrix: Water

Analysis Batch: 393595

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 393525

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00667	0.00642		mg/L		96	80 - 120	1	20

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-393222/3

Matrix: Water

Analysis Batch: 393222

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/21/17 14:18	1

Lab Sample ID: MB 480-393222/51

Matrix: Water

Analysis Batch: 393222

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			12/21/17 15:00	1

Lab Sample ID: LCS 480-393222/4

Matrix: Water

Analysis Batch: 393222

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.977		mg/L		98	90 - 110

Lab Sample ID: LCS 480-393222/52

Matrix: Water

Analysis Batch: 393222

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.973		mg/L		97	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-394007/27

Matrix: Water

Analysis Batch: 394007

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	5.17	J	10.0	5.0	mg/L			12/28/17 20:27	1

Lab Sample ID: MB 480-394007/51

Matrix: Water

Analysis Batch: 394007

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	5.76	J	10.0	5.0	mg/L			12/28/17 20:27	1

Lab Sample ID: LCS 480-394007/28

Matrix: Water

Analysis Batch: 394007

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.35		mg/L		105	90 - 110

TestAmerica Buffalo

QC Sample Results

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 480-394007/52

Matrix: Water

Analysis Batch: 394007

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.35		mg/L		105	90 - 110

Method: SM 2340C - Hardness, Total (mg/l as CaCO3)

Lab Sample ID: MB 480-394296/3

Matrix: Water

Analysis Batch: 394296

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total hardness as CaCO3	ND		2.0	0.53	mg/L			01/02/18 16:09	1

Lab Sample ID: LCS 480-394296/4

Matrix: Water

Analysis Batch: 394296

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total hardness as CaCO3	213	208.0		mg/L		98	90 - 110

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

GC/MS Semi VOA

Analysis Batch: 486828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 460-487125/1-A	Method Blank	Total/NA	Water	8270D SIM	487125

Prep Batch: 487125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	3510C	
MB 460-487125/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-487125/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 460-487125/6-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-487125/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 460-487125/7-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 487208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	8270D SIM	487125
LCS 460-487125/6-A	Lab Control Sample	Total/NA	Water	8270D SIM	487125
LCSD 460-487125/7-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	487125

Analysis Batch: 487349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 460-487125/2-A	Lab Control Sample	Total/NA	Water	8270D	487125
LCSD 460-487125/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	487125

Analysis Batch: 487617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	8270D	487125

Metals

Prep Batch: 392978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	3005A	
MB 480-392978/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-392978/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-392978/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	

Prep Batch: 393525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	7470A	
MB 480-393525/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-393525/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 480-393525/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Analysis Batch: 393595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	7470A	393525
MB 480-393525/1-A	Method Blank	Total/NA	Water	7470A	393525
LCS 480-393525/2-A	Lab Control Sample	Total/NA	Water	7470A	393525
LCSD 480-393525/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	393525

TestAmerica Buffalo

QC Association Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Metals (Continued)

Analysis Batch: 394041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	6010C	392978
480-129214-1	8-WAY-001-003-01	Total/NA	Water	6010C	392978
MB 480-392978/1-A	Method Blank	Total/NA	Water	6010C	392978
LCS 480-392978/2-A	Lab Control Sample	Total/NA	Water	6010C	392978
LCSD 480-392978/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	392978

Analysis Batch: 394217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	6010C	392978
480-129214-1	8-WAY-001-003-01	Total/NA	Water	6010C	392978

General Chemistry

Analysis Batch: 393222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	350.1	
MB 480-393222/3	Method Blank	Total/NA	Water	350.1	
MB 480-393222/51	Method Blank	Total/NA	Water	350.1	
LCS 480-393222/4	Lab Control Sample	Total/NA	Water	350.1	
LCS 480-393222/52	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 394007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	410.4	
MB 480-394007/27	Method Blank	Total/NA	Water	410.4	
MB 480-394007/51	Method Blank	Total/NA	Water	410.4	
LCS 480-394007/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-394007/52	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 394296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-129214-1	8-WAY-001-003-01	Total/NA	Water	SM 2340C	
MB 480-394296/3	Method Blank	Total/NA	Water	SM 2340C	
LCS 480-394296/4	Lab Control Sample	Total/NA	Water	SM 2340C	

Lab Chronicle

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Client Sample ID: 8-WAY-001-003-01

Date Collected: 12/19/17 12:50

Date Received: 12/20/17 01:00

Lab Sample ID: 480-129214-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			487125	12/26/17 15:13	JXZ	TAL EDI
Total/NA	Analysis	8270D		1	487617	12/28/17 22:25	DAN	TAL EDI
Total/NA	Prep	3510C			487125	12/26/17 15:13	JXZ	TAL EDI
Total/NA	Analysis	8270D SIM		1	487208	12/27/17 03:12	DAN	TAL EDI
Total/NA	Prep	3005A			392978	12/21/17 08:55	EMB	TAL BUF
Total/NA	Analysis	6010C		1	394041	12/28/17 21:00	AMH	TAL BUF
Total/NA	Prep	3005A			392978	12/21/17 08:55	EMB	TAL BUF
Total/NA	Analysis	6010C		5	394041	12/28/17 21:04	AMH	TAL BUF
Total/NA	Prep	3005A			392978	12/21/17 08:55	EMB	TAL BUF
Total/NA	Analysis	6010C		1	394217	12/29/17 17:01	AMH	TAL BUF
Total/NA	Prep	3005A			392978	12/21/17 08:55	EMB	TAL BUF
Total/NA	Analysis	6010C		5	394217	12/29/17 17:05	AMH	TAL BUF
Total/NA	Prep	7470A			393525	12/26/17 13:00	EMB	TAL BUF
Total/NA	Analysis	7470A		1	393595	12/26/17 15:56	BMB	TAL BUF
Total/NA	Analysis	350.1		1	393222	12/21/17 15:12	SSS	TAL BUF
Total/NA	Analysis	410.4		10	394007	12/28/17 20:27	CDC	TAL BUF
Total/NA	Analysis	SM 2340C		1	394296	01/02/18 16:09	DSC	TAL BUF

Laboratory References:

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

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

Laboratory: TestAmerica Edison

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11452	04-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3510C	Water	Benzo[g,h,i]perylene
8270D SIM	3510C	Water	Naphthalene

Method Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL EDI
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL EDI
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
410.4	COD	MCAWW	TAL BUF
SM 2340C	Hardness, Total (mg/l as CaCO ₃)	SM	TAL BUF

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

Client: Parsons Corporation
Project/Site: Palmyra LF

TestAmerica Job ID: 480-129214-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-129214-1	8-WAY-001-003-01	Water	12/19/17 12:50	12/20/17 01:00

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Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-129214-1

Login Number: 129214

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	PARSONS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 480-129214-1

Login Number: 129214

List Number: 2

Creator: Armbruster, Chris

List Source: TestAmerica Edison

List Creation: 12/21/17 11:06 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	009402
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.8°C IR9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Sample Summary

Parsons Engineering Science for ILI

Job No: JC69545

PESNYL: ILI - Region 8, Palmyra Landfill, NY

Project No: 450619.09000

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JC69545-1	07/09/18	10:30	07/10/18	AQ	Ground Water	8-WAY-001-004-01
JC69545-2	07/09/18	11:00	07/10/18	AQ	Equipment Blank	8-WAY-001-004-02
JC69545-3	07/09/18	13:00	07/10/18	AQ	Ground Water	8-WAY-001-004-03
JC69545-4	07/09/18	15:00	07/10/18	AQ	Ground Water	8-WAY-001-004-04
JC69545-5	07/09/18	16:00	07/10/18	AQ	Field Blank Water	8-WAY-001-004-05
JC69545-6	07/09/18	16:00	07/10/18	AQ	Trip Blank Water	8-WAY-001-004-06

Report of Analysis

Page 1 of 2

Client Sample ID:	8-WAY-001-004-01	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-1	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177294.D	1	07/12/18 11:29	RS	n/a	n/a	VX7531
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	0.24	0.50	0.17	ug/l	J
74-97-5	Bromochloromethane ^a	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 ^a	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:	8-WAY-001-004-01	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-1	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	104%		80-120%
17060-07-0	1,2-Dichloroethane-D4	94%		81-124%
2037-26-5	Toluene-D8	87%		80-120%
460-00-4	4-Bromofluorobenzene	92%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	alkene	3.80	13	ug/l	J
	Total TIC, Volatile		13	ug/l	J

(a) This compound in BS is outside in house QC limits bias high.

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:	8-WAY-001-004-01	
Lab Sample ID:	JC69545-1	Date Sampled: 07/09/18
Matrix:	AQ - Ground Water	Date Received: 07/10/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M76569.D	1	07/13/18 06:06	CS	07/12/18 09:00	OP13421A	E4M3603
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	0.0230	0.10	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	0.0262	0.10	0.022	ug/l	J
86-73-7	Fluorene	0.0262	0.10	0.025	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	
85-01-8	Phenanthrene	0.0527	0.10	0.023	ug/l	J
129-00-0	Pyrene	0.0194	0.10	0.019	ug/l	J
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	46%		29-124%
321-60-8	2-Fluorobiphenyl	48%		23-122%
1718-51-0	Terphenyl-d14	69%		22-130%

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

Report of Analysis

Page 1 of 2

Client Sample ID:	8-WAY-001-004-01	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-1	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2Q17237.D	1	07/17/18 02:07	AFL	07/13/18 16:00	F:OP70892	F:S2Q297
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	17	4.2	ng/l	
2706-90-3	Perfluoropentanoic acid ^b	ND	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	ND	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	12.0	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.2	2.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid ^c	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	8.3	2.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid ^d	7.04	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	ND	8.3	2.1	ng/l	
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	94%		30-140%
	13C5-PFPeA	91%		40-140%
	13C5-PFHxA	92%		50-150%
	13C4-PFHpA	99%		50-150%
	13C8-PFOA	108%		50-150%
	13C9-PFNA	101%		50-150%
	13C6-PFDA	88%		50-150%
	13C7-PFUnDA	79%		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:	8-WAY-001-004-01	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-1	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	79%		50-150%
	13C2-PFTeDA	84%		40-150%
	13C3-PFBS	93%		50-150%
	13C3-PFHxS	94%		50-150%
	13C8-PFOS	83%		50-150%
	13C8-FOSA	40%		30-140%
	d3-MeFOSAA	89%		50-150%
	13C2-6:2FTS	108%		50-150%
	13C2-8:2FTS	87%		50-150%

- (a) Analysis performed at SGS Orlando, FL.
 (b) Associated CCV outside of control limits high, sample was ND.
 (c) Associated BS outside control limits high. Sample was ND.
 (d) Associated BS recovery outside control limits. Insufficient sample for re-extraction.

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: 8-WAY-001-004-01**Lab Sample ID:** JC69545-1**Matrix:** AQ - Ground Water**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	0.0025	0.0010	0.00094	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Barium	0.324	0.20	0.013	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Beryllium	ND	0.0010	0.00050	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Boron	0.0936 J	0.10	0.063	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Chromium	ND	0.010	0.0020	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Copper	ND	0.010	0.0059	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Iron	12.8	0.10	0.032	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Lead	ND	0.0030	0.0018	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Manganese	1.28	0.015	0.0014	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Mercury	ND	0.00020	0.000095	mg/l	1	07/11/18	07/11/18	DP	SW846 7470A ¹	SW846 7470A ⁴
Nickel	0.0018 J	0.010	0.0017	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Selenium	ND	0.010	0.0049	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Thallium	ND	0.0010	0.00017	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Zinc	ND	0.020	0.0069	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵

(1) Instrument QC Batch: MA44818

(2) Instrument QC Batch: MA44834

(3) Instrument QC Batch: MA44836

(4) Prep QC Batch: MP8047

(5) Prep QC Batch: MP8055

(6) Prep QC Batch: MP8055A

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:	8-WAY-001-004-01	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-1	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	410	5.0	1.1	mg/l	1	07/13/18 13:35 FO	SM2320 B-11	
Bromide	0.38 J	0.50	0.060	mg/l	1	07/13/18 14:40 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	21.9	20	6.3	mg/l	1	07/13/18 15:27 ST	SM5220 C-11, HACH8000	
Chloride	79.1	20	0.70	mg/l	10	07/15/18 02:23 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	454	10	6.2	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	0.75	0.20	0.14	mg/l	1	07/16/18 14:23 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	673	10	1.8	mg/l	1	07/11/18 16:10 RC	SM2540 C-11	
Sulfate	74.8	20	5.3	mg/l	10	07/15/18 02:23 NV	EPA 300/SW846 9056A	
Total Organic Carbon	8.6	1.0	0.60	mg/l	1	07/12/18 20:56 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

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Client Sample ID:	8-WAY-001-004-02	
Lab Sample ID:	JC69545-2	Date Sampled: 07/09/18
Matrix:	AQ - Equipment Blank	Date Received: 07/10/18
Method:	SW846 8260C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177292.D	1	07/12/18 10:28	RS	n/a	n/a	VX7531
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 ^a	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 ^a	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:	8-WAY-001-004-02	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-2	Date Received:	07/10/18
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	92%		81-124%
2037-26-5	Toluene-D8	90%		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	

(a) This compound in BS is outside in house QC limits bias high.

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:	8-WAY-001-004-02	
Lab Sample ID:	JC69545-2	Date Sampled: 07/09/18
Matrix:	AQ - Equipment Blank	Date Received: 07/10/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M76570.D	1	07/13/18 06:27	CS	07/12/18 09:00	OP13421A	E4M3603
Run #2							

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

BN PAH List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		29-124%
321-60-8	2-Fluorobiphenyl	70%		23-122%
1718-51-0	Terphenyl-d14	89%		22-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	8-WAY-001-004-02	
Lab Sample ID:	JC69545-2	Date Sampled: 07/09/18
Matrix:	AQ - Equipment Blank	Date Received: 07/10/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2Q17240.D	1	07/17/18 03:12	AFL	07/13/18 16:00	F:OP70892	F:S2Q297
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	17	4.2	ng/l	
2706-90-3	Perfluoropentanoic acid ^b	ND	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	ND	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	ND	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.2	2.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid ^c	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	8.3	2.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid ^c	ND	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	ND	8.3	2.1	ng/l	
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	96%		30-140%
	13C5-PFPeA	93%		40-140%
	13C5-PFHxA	93%		50-150%
	13C4-PFHpA	101%		50-150%
	13C8-PFOA	116%		50-150%
	13C9-PFNA	97%		50-150%
	13C6-PFDA	87%		50-150%
	13C7-PFUnDA	69%		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:	8-WAY-001-004-02	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-2	Date Received:	07/10/18
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra 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	92%		50-150%
	13C3-PFHxS	97%		50-150%
	13C8-PFOS	79%		50-150%
	13C8-FOSA	98%		30-140%
	d3-MeFOSAA	81%		50-150%
	13C2-6:2FTS	107%		50-150%
	13C2-8:2FTS	82%		50-150%

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

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-004-02**Lab Sample ID:** JC69545-2**Matrix:** AQ - Equipment Blank**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	ND	0.0010	0.00094	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Barium	ND	0.20	0.013	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Beryllium	ND	0.0010	0.00050	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Boron	ND	0.10	0.063	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Chromium	ND	0.010	0.0020	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Copper	ND	0.010	0.0059	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Iron	ND	0.10	0.032	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Lead	ND	0.0030	0.0018	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Manganese	ND	0.015	0.0014	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Mercury	ND	0.00020	0.000095	mg/l	1	07/11/18	07/11/18	DP	SW846 7470A ¹	SW846 7470A ⁴
Nickel	ND	0.010	0.0017	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Selenium	ND	0.010	0.0049	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Thallium	ND	0.0010	0.00017	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Zinc	ND	0.020	0.0069	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵

(1) Instrument QC Batch: MA44818

(2) Instrument QC Batch: MA44834

(3) Instrument QC Batch: MA44836

(4) Prep QC Batch: MP8047

(5) Prep QC Batch: MP8055

(6) Prep QC Batch: MP8055A

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: 8-WAY-001-004-02**Lab Sample ID:** JC69545-2**Matrix:** AQ - Equipment Blank**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	ND	5.0	1.1	mg/l	1	07/13/18 13:35 FO	SM2320 B-11	
Bromide	ND	0.50	0.060	mg/l	1	07/13/18 15:11 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	07/13/18 15:27 ST	SM5220 C-11, HACH8000	
Chloride	0.083 J	2.0	0.070	mg/l	1	07/13/18 15:11 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	ND	4.0	2.5	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	07/16/18 14:24 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	ND	10	1.8	mg/l	1	07/11/18 16:10 RC	SM2540 C-11	
Sulfate	ND	2.0	0.53	mg/l	1	07/13/18 15:11 NV	EPA 300/SW846 9056A	
Total Organic Carbon	0.95 J	1.0	0.60	mg/l	1	07/12/18 21:48 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

Page 1 of 2

Client Sample ID:	8-WAY-001-004-03	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-3	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177295.D	1	07/12/18 11:59	RS	n/a	n/a	VX7531
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	1.5	0.50	0.17	ug/l	
74-97-5	Bromochloromethane ^a	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	4.8	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	1.1	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 ^a	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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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: 8-WAY-001-004-03**Lab Sample ID:** JC69545-3**Matrix:** AQ - Ground Water**Method:** SW846 8260C**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		80-120%
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	88%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
75-45-6	Difluorochloromethane	3.92	20	ug/l	JN
593-70-4	Methane, chlorofluoro-	4.44	6.1	ug/l	JN
60-29-7	Ethyl ether	6.25	6	ug/l	JN
	Total TIC, Volatile		32.1	ug/l	J

(a) This compound in BS is outside in house QC limits bias high.

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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

Page 1 of 1

Client Sample ID:	8-WAY-001-004-03	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-3	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M76571.D	1	07/13/18 06:49	CS	07/12/18 09:00	OP13421A	E4M3603
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.0503	0.10	0.025	ug/l	J
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	0.748	0.10	0.029	ug/l	
85-01-8	Phenanthrene	0.0433	0.10	0.023	ug/l	J
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane	1.38	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		29-124%
321-60-8	2-Fluorobiphenyl	61%		23-122%
1718-51-0	Terphenyl-d14	58%		22-130%

ND = Not detected MDL = Method Detection 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

Page 1 of 2

Client Sample ID:	8-WAY-001-004-03	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-3	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2Q17241.D	1	07/17/18 03:34	AFL	07/13/18 16:00	F:OP70892	F:S2Q297
Run #2 ^a	2Q17473.D	10	07/20/18 18:35	AFL	07/18/18 16:00	F:OP70956	F:S2Q299

	Initial Volume	Final Volume
Run #1	110 ml	1.0 ml
Run #2	120 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	32.7	18	4.5	ng/l	
2706-90-3	Perfluoropentanoic acid ^b	ND	9.1	3.4	ng/l	
307-24-4	Perfluorohexanoic acid	34.5	9.1	2.3	ng/l	
375-85-9	Perfluoroheptanoic acid	43.8	4.5	2.3	ng/l	
335-67-1	Perfluorooctanoic acid	4360 ^c	42	21	ng/l	
375-95-1	Perfluorononanoic acid	3.95	4.5	2.3	ng/l	J
335-76-2	Perfluorodecanoic acid	ND	9.1	2.3	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	9.1	2.3	ng/l	
307-55-1	Perfluorododecanoic acid ^d	ND	9.1	3.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	9.1	2.3	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	9.1	2.3	ng/l	
375-73-5	Perfluorobutanesulfonic acid	2.50	4.5	2.3	ng/l	J
355-46-4	Perfluorohexanesulfonic acid	10.1	4.5	2.3	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	9.1	2.3	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	53.4 ^c	42	31	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	9.1	2.3	ng/l	
754-91-6	PFOSA	ND	9.1	2.3	ng/l	
2355-31-9	MeFOSAA	ND	45	9.1	ng/l	
2991-50-6	EtFOSAA	22.4	45	9.1	ng/l	J
27619-97-2	6:2 Fluorotelomer sulfonate	ND	18	4.5	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	18	4.5	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	83%		30-140%
	13C5-PFPeA	82%		40-140%
	13C5-PFHxA	81%		50-150%
	13C4-PFHpA	88%		50-150%
	13C8-PFOA	76%	85%	50-150%
	13C9-PFNA	92%		50-150%
	13C6-PFDA	99%		50-150%
	13C7-PFUnDA	88%		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:	8-WAY-001-004-03	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-3	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	95%		50-150%
	13C2-PFTeDA	100%		40-150%
	13C3-PFBS	77%		50-150%
	13C3-PFHxS	73%		50-150%
	13C8-PFOS		75%	50-150%
	13C8-FOSA	33%		30-140%
	d3-MeFOSAA	92%		50-150%
	13C2-6:2FTS	81%		50-150%
	13C2-8:2FTS	98%		50-150%

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

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-004-03**Lab Sample ID:** JC69545-3**Matrix:** AQ - Ground Water**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	0.0067	0.0010	0.00094	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Barium	0.759	0.20	0.013	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Beryllium	ND	0.0010	0.00050	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Boron	0.366	0.10	0.063	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Chromium	ND	0.010	0.0020	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Copper	0.0141	0.010	0.0059	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Iron	22.9	0.10	0.032	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Lead	ND	0.0030	0.0018	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Manganese	0.166	0.015	0.0014	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Mercury	ND	0.00020	0.000095	mg/l	1	07/11/18	07/11/18	DP	SW846 7470A ¹	SW846 7470A ⁴
Nickel	0.0056 J	0.010	0.0017	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Selenium	ND	0.010	0.0049	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Thallium	ND	0.0010	0.00017	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Zinc	ND	0.020	0.0069	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵

(1) Instrument QC Batch: MA44818

(2) Instrument QC Batch: MA44834

(3) Instrument QC Batch: MA44836

(4) Prep QC Batch: MP8047

(5) Prep QC Batch: MP8055

(6) Prep QC Batch: MP8055A

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:	8-WAY-001-004-03	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-3	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	645	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320	B-11
Bromide	1.7	0.50	0.060	mg/l	1	07/13/18 15:38 NV	EPA 300/SW846	9056A
Chemical Oxygen Demand	35.6	20	6.3	mg/l	1	07/13/18 15:27 ST	SM5220	C-11, HACH8000
Chloride	319	60	2.1	mg/l	30	07/15/18 03:19 NV	EPA 300/SW846	9056A
Hardness, Total as CaCO ₃	645	10	6.2	mg/l	1	07/17/18 17:39 MP	SM2340	C-11
Nitrogen, Ammonia	37.6	4.0	2.8	mg/l	20	07/16/18 15:29 BM	SM4500NH3	H-11 LACHAT
Solids, Total Dissolved	1150	10	1.8	mg/l	1	07/11/18 16:10 RC	SM2540	C-11
Sulfate	1.2 J	2.0	0.53	mg/l	1	07/13/18 15:38 NV	EPA 300/SW846	9056A
Total Organic Carbon	10.1	1.0	0.60	mg/l	1	07/12/18 22:05 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 2

Client Sample ID:	8-WAY-001-004-04	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-4	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177296.D	1	07/12/18 12:29	RS	n/a	n/a	VX7531
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	6.1	10	5.0	ug/l	J
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 ^a	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 ^a	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:	8-WAY-001-004-04	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-4	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	107%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	88%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
75-45-6	Difluorochloromethane	3.91	7.4	ug/l	JN
	Total TIC, Volatile		7.4	ug/l	J

(a) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection 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

Page 1 of 1

Client Sample ID:	8-WAY-001-004-04	
Lab Sample ID:	JC69545-4	Date Sampled: 07/09/18
Matrix:	AQ - Ground Water	Date Received: 07/10/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	4M76587.D	2	07/13/18 16:27	JB	07/12/18 09:00	OP13421A	E4M3604
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.049	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.042	ug/l	
120-12-7	Anthracene	ND	0.20	0.039	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.046	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.067	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.087	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.071	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.066	ug/l	
218-01-9	Chrysene	ND	0.20	0.052	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.072	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.044	ug/l	
86-73-7	Fluorene	ND	0.20	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.076	ug/l	
91-20-3	Naphthalene	ND	0.20	0.059	ug/l	
85-01-8	Phenanthrene	0.0527	0.20	0.046	ug/l	J
129-00-0	Pyrene	ND	0.20	0.039	ug/l	
123-91-1	1,4-Dioxane	0.374	0.20	0.098	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		29-124%
321-60-8	2-Fluorobiphenyl	57%		23-122%
1718-51-0	Terphenyl-d14	64%		22-130%

(a) Dilution required due to matrix.

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:	8-WAY-001-004-04	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-4	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2Q17242.D	1	07/17/18 03:55	AFL	07/13/18 16:00	F:OP70892	F:S2Q297
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	54.7	17	4.2	ng/l	
2706-90-3	Perfluoropentanoic acid ^b	ND	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	ND	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	4.37	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.2	2.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid ^c	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	8.3	2.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid ^c	ND	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	ND	8.3	2.1	ng/l	
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	89%		30-140%
	13C5-PFPeA	87%		40-140%
	13C5-PFHxA	88%		50-150%
	13C4-PFHpA	92%		50-150%
	13C8-PFOA	100%		50-150%
	13C9-PFNA	93%		50-150%
	13C6-PFDA	87%		50-150%
	13C7-PFUnDA	76%		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:	8-WAY-001-004-04	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-4	Date Received:	07/10/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	76%		50-150%
	13C2-PFTeDA	83%		40-150%
	13C3-PFBS	86%		50-150%
	13C3-PFHxS	86%		50-150%
	13C8-PFOS	77%		50-150%
	13C8-FOSA	69%		30-140%
	d3-MeFOSAA	85%		50-150%
	13C2-6:2FTS	102%		50-150%
	13C2-8:2FTS	82%		50-150%

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

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-004-04**Lab Sample ID:** JC69545-4**Matrix:** AQ - Ground Water**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	0.0025	0.0010	0.00094	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Barium	0.0546 J	0.20	0.013	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Beryllium	ND	0.0010	0.00050	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Boron	0.299	0.10	0.063	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Chromium	ND	0.010	0.0020	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Copper	ND	0.010	0.0059	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Iron	3.20	0.10	0.032	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Lead	ND	0.0030	0.0018	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Manganese	0.0384	0.015	0.0014	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Mercury	ND	0.00020	0.000095	mg/l	1	07/11/18	07/11/18	DP	SW846 7470A ¹	SW846 7470A ⁴
Nickel	ND	0.010	0.0017	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Selenium	ND	0.010	0.0049	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵
Thallium	0.00026 J	0.0010	0.00017	mg/l	2	07/12/18	07/12/18	ZC	SW846 6020B ³	SW846 3010A ⁶
Zinc	ND	0.020	0.0069	mg/l	1	07/11/18	07/13/18	ND	SW846 6010D ²	SW846 3010A ⁵

(1) Instrument QC Batch: MA44818

(2) Instrument QC Batch: MA44834

(3) Instrument QC Batch: MA44836

(4) Prep QC Batch: MP8047

(5) Prep QC Batch: MP8055

(6) Prep QC Batch: MP8055A

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: 8-WAY-001-004-04**Lab Sample ID:** JC69545-4**Matrix:** AQ - Ground Water**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY**Date Sampled:** 07/09/18**Date Received:** 07/10/18**Percent Solids:** n/a**General Chemistry**

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	543	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320 B-11	
Bromide	0.97	0.50	0.060	mg/l	1	07/13/18 16:06 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	07/13/18 15:27 ST	SM5220 C-11, HACH8000	
Chloride	153	40	1.4	mg/l	20	07/15/18 03:47 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	774	10	6.2	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	0.33	0.20	0.14	mg/l	1	07/16/18 14:27 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	1120	10	1.8	mg/l	1	07/11/18 16:10 RC	SM2540 C-11	
Sulfate	262	40	11	mg/l	20	07/15/18 03:47 NV	EPA 300/SW846 9056A	
Total Organic Carbon	2.8	1.0	0.60	mg/l	1	07/12/18 22:49 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 2

Client Sample ID:	8-WAY-001-004-05	
Lab Sample ID:	JC69545-5	Date Sampled: 07/09/18
Matrix:	AQ - Field Blank Water	Date Received: 07/10/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2Q17243.D	1	07/17/18 04:17	AFL	07/13/18 16:00	F:OP70892	F:S2Q297
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	17	4.2	ng/l	
2706-90-3	Perfluoropentanoic acid ^b	ND	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	ND	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	ND	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.2	2.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid ^c	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	8.3	2.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid ^c	ND	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	ND	8.3	2.1	ng/l	
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	98%		30-140%
	13C5-PFPeA	94%		40-140%
	13C5-PFHxA	97%		50-150%
	13C4-PFHpA	102%		50-150%
	13C8-PFOA	114%		50-150%
	13C9-PFNA	98%		50-150%
	13C6-PFDA	93%		50-150%
	13C7-PFUnDA	76%		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:	8-WAY-001-004-05	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-5	Date Received:	07/10/18
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	72%		50-150%
	13C2-PFTeDA	77%		40-150%
	13C3-PFBS	95%		50-150%
	13C3-PFHxS	99%		50-150%
	13C8-PFOS	78%		50-150%
	13C8-FOSA	97%		30-140%
	d3-MeFOSAA	85%		50-150%
	13C2-6:2FTS	109%		50-150%
	13C2-8:2FTS	83%		50-150%

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

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

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

Report of Analysis

Page 1 of 2

Client Sample ID:	8-WAY-001-004-06	
Lab Sample ID:	JC69545-6	Date Sampled: 07/09/18
Matrix:	AQ - Trip Blank Water	Date Received: 07/10/18
Method:	SW846 8260C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177293.D	1	07/12/18 10:58	RS	n/a	n/a	VX7531
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 ^a	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 ^a	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

Client Sample ID:	8-WAY-001-004-06	Date Sampled:	07/09/18
Lab Sample ID:	JC69545-6	Date Received:	07/10/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	93%		81-124%
2037-26-5	Toluene-D8	89%		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	

(a) This compound in BS is outside in house QC limits bias high.

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

GW, EB, FB, WTB

CHAIN-OF-CUSTODY / Analytical Request Document

JC69545

Section A Laboratory Information				Section B Client Information				COC #: 8-WAY-001-004					
Lab Name: SGS - Accutest				Company: Parsons				Project Name: 11 - Region 8					
Attention: Kristin Degraw				Attention: George Moreau				Project Site: Palmyra Landfill					
Address: Route 2235 Route 130; Dayton, NJ 08810				Address: 301 Plainfield Road, Suite 350 Syracuse, NY 13212				Project Number: 450619					
Phone: 732-329-0200				Phone: 315-552-9715									
Email: Kristin.Degraw@sgs.com				Email: George.H.Moreau@parsons.com									
Section C Deliverable Requirements				Section D Additional Information				Preservative codes (for water only):					
Report To: George.H.Moreau@parsons.com				Purchase Order No:				0 1 0 2 3 1 0 0 3					
Copy To: Lorraine.Weber@parsons.com; Laura.Brachenberg@parsons.com				TAT - 10 Day									
Marianne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com													
Deliverables: Level 2, CAT B Report, NYSDEC EQUIS EDD													
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID MUST BE UNIQUE	Sample Date	Sample Time	Sample Purpose	Sample Matrix	Sample Type	# of Cont.	MS/MSD	Composite (Y/N)	#Bottles	Preservative codes (for water only):
1 8-WAY-001-004-MW-05	15.4	25.7	8-WAY-001-004-01	7/19/18	1330	N	WG	GW	15			2	✓✓✓✓✓✓✓✓✓✓
2 Field QC	-	-	8-WAY-001-004-02	7/19/18	1100	EB	WQ	QC	15			3	✓✓✓✓✓✓✓✓✓✓
3 8-WAY-001-004-MW-05	9.9	16.4	8-WAY-001-004-03	7/19/18	1300	N	WG	GW	15			2	✓✓✓✓✓✓✓✓✓✓
4 8-WAY-001-004-MW-05	7.9	22.9	8-WAY-001-004-04	7/19/18	1500	N	WG	GW	15			2	✓✓✓✓✓✓✓✓✓✓
5 ~~Field QC~~	-	-	8-WAY-001-004-05	7/19/18	1600	FB	WQ	QC	4			1	✓
6 Field QC	-	-	8-WAY-001-004-06	7/19/18	-	TB	WQ	QC	2			1	✓
7													
8													
9													
10													
Special Instructions: INITIAL ASSESSMENT <u>LN 3B</u> AM -07318-26													
ABEL VERIFICATION <u>21, 3.9</u>													
Samplers Name: <u>Megan Clark</u>		Company: <u>Parsons</u>		Relinquished By: <u>[Signature]</u>		Company: <u>[Signature]</u>		Cooler Temp: <u>3.2°C</u>		Custody Seals Intact: Yes ☒ No ☐			
Date/Time: <u>7/19/18 1830</u>		Date/Time: <u>7/19/18 1830</u>		Date/Time: <u>7/19/18 1830</u>		Date/Time: <u>7/19/18 1830</u>		Rec'd on Ice: Yes ☒ No ☐		Samples Intact: Yes ☒ No ☐			
Shipment Method: <u>FedEx Express</u>		Shipment Tracking No: <u>4351 6347 7941</u>		Accepted By: <u>[Signature]</u>		Company: <u>SGS</u>		Cooler Temp: <u>3.2°C</u>		Custody Seals Intact: Yes ☒ No ☐			
Date/Time: <u>7/19/18 9:48</u>		Date/Time: <u>7/19/18 9:48</u>		Date/Time: <u>7/19/18 9:48</u>		Date/Time: <u>7/19/18 9:48</u>		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)]													

E44
A26
G20
SUB
662P2
1934
V484

C:\Users\P005164D\AppData\Local\Microsoft\Windows\NetCache\Content.Outlook\HC7Q9461\Copy of COC for ILI_Regio 7_9.xlsx

JC69545: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC69545

Client:
Project:
Date / Time Received: 7/10/2018 9:40:00 AM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.2); Cooler 2: (2.1); Cooler 3: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (3.2); Cooler 2: (2.1); Cooler 3: (3.9);

Cooler Security
Y or N

1. Custody Seals Present:

☒ ☐

3. COC Present:

☒ ☐

2. Custody Seals Intact:

☒ ☐

4. Smpl Dates/Time OK

☒ ☐
Cooler Temperature
Y or N

1. Temp criteria achieved:

☒ ☐

2. Cooler temp verification:

IR Gun

3. Cooler media:

Ice (Bag)

4. No. Coolers:

3

Quality Control Preservation
Y or N
N/A

1. Trip Blank present / cooler:

☒ ☐ ☐

2. Trip Blank listed on COC:

☒ ☐ ☐

3. Samples preserved properly:

☒ ☐ ☐

4. VOCs headspace free:

☒ ☐ ☐
Sample Integrity - Documentation
Y or N

1. Sample labels present on bottles:

☒ ☐

2. Container labeling complete:

☒ ☐

3. Sample container label / COC agree:

☒ ☐
Sample Integrity - Condition
Y or N

1. Sample recvd within HT:

☒ ☐

2. All containers accounted for:

☒ ☐

3. Condition of sample:

Intact

Sample Integrity - Instructions
Y or N N/A

1. Analysis requested is clear:

☒ ☐

2. Bottles received for unspecified tests

☐ ☒

3. Sufficient volume recvd for analysis:

☒ ☐

4. Compositing instructions clear:

☐ ☐ ☒

5. Filtering instructions clear:

☐ ☐ ☒

Test Strip Lot #s:

pH 1-12:

216017

pH 12+:

208717

Other: (Specify)

Comments

SM089-03

Rev. Date 12/7/17

JC69545: Chain of Custody

Page 2 of 2

Sample Summary

Parsons Engineering Science for ILI

Job No: JC69654

PESNYL: ILI - Region 8, Palmyra Landfill, NY

Project No: 450619.09000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC69654-1	07/10/18	09:45 GM	07/11/18	AQ	Ground Water	8-WAY-001-005-01
JC69654-2	07/10/18	00:00 GM	07/11/18	AQ	Ground Water	8-WAY-001-005-02
JC69654-3	07/10/18	12:00 GM	07/11/18	AQ	Ground Water	8-WAY-001-005-03
JC69654-3D	07/10/18	12:00 GM	07/11/18	AQ	Water Dup/MSD	8-WAY-001-005-03
JC69654-3S	07/10/18	12:00 GM	07/11/18	AQ	Water Matrix Spike	8-WAY-001-005-03
JC69654-4	07/10/18	12:30 GM	07/11/18	AQ	Surface Water	8-WAY-001-005-04
JC69654-5	07/10/18	14:50 GM	07/11/18	AQ	Surface Water	8-WAY-001-005-05
JC69654-6	07/10/18	00:00 GM	07/11/18	AQ	Field Blank Water	8-WAY-001-005-06
JC69654-7	07/10/18	14:50 GM	07/11/18	AQ	Trip Blank Water	8-WAY-001-005-07

Report of Analysis

Page 1 of 2

Client Sample ID:	8-WAY-001-005-01	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-1	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177325.D	1	07/13/18 11:12	RS	n/a	n/a	VX7533
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	27.3	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 ^a	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene ^a	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene ^a	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane ^a	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:	8-WAY-001-005-01	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-1	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	96%		80-120%

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

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

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	8-WAY-001-005-01	
Lab Sample ID:	JC69654-1	Date Sampled: 07/10/18
Matrix:	AQ - Ground Water	Date Received: 07/11/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P69723.D	1	07/13/18 23:38	SA	07/13/18 06:00	OP13466A	E3P3303
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.095	0.023	ug/l	
208-96-8	Acenaphthylene	ND	0.095	0.020	ug/l	
120-12-7	Anthracene	ND	0.095	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.048	0.022	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.048	0.032	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.095	0.041	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.095	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.095	0.032	ug/l	
218-01-9	Chrysene	ND	0.095	0.025	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.095	0.034	ug/l	
206-44-0	Fluoranthene	0.0442	0.095	0.021	ug/l	J
86-73-7	Fluorene	ND	0.095	0.023	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.095	0.036	ug/l	
91-20-3	Naphthalene	ND	0.095	0.028	ug/l	
85-01-8	Phenanthrene	0.252	0.095	0.022	ug/l	
129-00-0	Pyrene	ND	0.095	0.018	ug/l	
123-91-1	1,4-Dioxane	0.245	0.095	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		29-124%
321-60-8	2-Fluorobiphenyl	56%		23-122%
1718-51-0	Terphenyl-d14	71%		22-130%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	8-WAY-001-005-01	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-1	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q49193.D	1	07/18/18 18:10	AFL	07/16/18 09:00	F:OP70903	F:SQ1182
Run #2							

	Initial Volume	Final Volume
Run #1	110 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	8.77	18	4.5	ng/l	J
2706-90-3	Perfluoropentanoic acid	ND	9.1	3.4	ng/l	
307-24-4	Perfluorohexanoic acid	ND	9.1	2.3	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.5	2.3	ng/l	
335-67-1	Perfluorooctanoic acid	ND	4.5	2.3	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.5	2.3	ng/l	
335-76-2	Perfluorodecanoic acid	ND	9.1	2.3	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	9.1	2.3	ng/l	
307-55-1	Perfluorododecanoic acid	ND	9.1	3.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	9.1	2.3	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	9.1	2.3	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.5	2.3	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.5	2.3	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	9.1	2.3	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	4.5	3.4	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	9.1	2.3	ng/l	
754-91-6	PFOSA	ND	9.1	2.3	ng/l	
2355-31-9	MeFOSAA	ND	45	9.1	ng/l	
2991-50-6	EtFOSAA	ND	45	9.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	18	4.5	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	18	4.5	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	98%		30-140%
	13C5-PFPeA	99%		40-140%
	13C5-PFHxA	102%		50-150%
	13C4-PFHpA	100%		50-150%
	13C8-PFOA	116%		50-150%
	13C9-PFNA	98%		50-150%
	13C6-PFDA	95%		50-150%
	13C7-PFUnDA	90%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	8-WAY-001-005-01	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-1	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	85%		50-150%
	13C2-PFTeDA	81%		40-150%
	13C3-PFBS	96%		50-150%
	13C3-PFHxS	95%		50-150%
	13C8-PFOS	87%		50-150%
	13C8-FOSA	31%		30-140%
	d3-MeFOSAA	86%		50-150%
	13C2-6:2FTS	107%		50-150%
	13C2-8:2FTS	92%		50-150%

(a) Analysis performed at SGS Orlando, FL.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-005-01**Lab Sample ID:** JC69654-1**Matrix:** AQ - Ground Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	0.0024	0.0010	0.00094	mg/l	2	07/13/18	07/16/18	ZC	SW846 6020B ²	SW846 3010A ⁵
Barium	0.0227 J	0.20	0.013	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00050	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Boron	0.138	0.10	0.063	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Chromium	ND	0.010	0.0020	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Copper	ND	0.010	0.0059	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Iron	2.50	0.10	0.032	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Lead	ND	0.0030	0.0018	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Manganese	0.0304	0.015	0.0014	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Mercury	ND	0.00020	0.000095	mg/l	1	07/16/18	07/16/18	DP	SW846 7470A ¹	SW846 7470A ⁶
Nickel	ND	0.010	0.0017	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Selenium	ND	0.010	0.0049	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Thallium	ND	0.0010	0.00017	mg/l	2	07/13/18	07/16/18	ZC	SW846 6020B ²	SW846 3010A ⁵
Zinc	ND	0.020	0.0069	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴

(1) Instrument QC Batch: MA44844

(2) Instrument QC Batch: MA44855

(3) Instrument QC Batch: MA44875

(4) Prep QC Batch: MP8081

(5) Prep QC Batch: MP8081A

(6) Prep QC Batch: MP8121

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:	8-WAY-001-005-01	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-1	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	374	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320 B-11	
Bromide	0.45 J	0.50	0.060	mg/l	1	07/13/18 16:34 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	07/17/18 17:20 ST	SM5220 C-11, HACH8000	
Chloride	123	20	0.70	mg/l	10	07/15/18 04:15 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	1380	10	6.2	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	0.16 J	0.20	0.14	mg/l	1	07/18/18 10:33 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	2050	10	1.8	mg/l	1	07/13/18 16:05 RC	SM2540 C-11	
Sulfate	897	200	53	mg/l	100	07/15/18 04:43 NV	EPA 300/SW846 9056A	
Total Organic Carbon	1.8	1.0	0.60	mg/l	1	07/17/18 12:45 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 2

Client Sample ID:	8-WAY-001-005-02	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-2	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177326.D	1	07/13/18 11:43	RS	n/a	n/a	VX7533
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	22.1	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 ^a	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene ^a	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene ^a	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane ^a	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:	8-WAY-001-005-02	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-2	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	98%		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	

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

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	8-WAY-001-005-02	
Lab Sample ID:	JC69654-2	Date Sampled: 07/10/18
Matrix:	AQ - Ground Water	Date Received: 07/11/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P69724.D	1	07/13/18 23:59	SA	07/13/18 06:01	OP13466A	E3P3303
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	0.0493	0.10	0.022	ug/l	J
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	0.235	0.10	0.023	ug/l	
129-00-0	Pyrene	ND	0.10	0.019	ug/l	
123-91-1	1,4-Dioxane ^a	0.250	0.10	0.049	ug/l	

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

(a) Associated CCV outside of control limits high.

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:	8-WAY-001-005-02	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-2	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q49194.D	1	07/18/18 18:28	AFL	07/16/18 09:00	F:OP70903	F:SQ1182
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	9.10	17	4.2	ng/l	J
2706-90-3	Perfluoropentanoic acid	ND	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	ND	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	ND	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.2	2.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	8.3	2.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	ND	8.3	2.1	ng/l	
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	85%		30-140%
	13C5-PFPeA	86%		40-140%
	13C5-PFHxA	88%		50-150%
	13C4-PFHpA	87%		50-150%
	13C8-PFOA	97%		50-150%
	13C9-PFNA	82%		50-150%
	13C6-PFDA	82%		50-150%
	13C7-PFUnDA	72%		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:	8-WAY-001-005-02	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-2	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	68%		50-150%
	13C2-PFTeDA	71%		40-150%
	13C3-PFBS	84%		50-150%
	13C3-PFHxS	80%		50-150%
	13C8-PFOS	70%		50-150%
	13C8-FOSA	55%		30-140%
	d3-MeFOSAA	69%		50-150%
	13C2-6:2FTS	91%		50-150%
	13C2-8:2FTS	74%		50-150%

(a) Analysis performed at SGS Orlando, FL.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-005-02**Lab Sample ID:** JC69654-2**Matrix:** AQ - Ground Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	0.0024	0.0010	0.00094	mg/l	2	07/13/18	07/16/18 ZC	SW846 6020B ²	SW846 3010A ⁵
Barium	0.0228 J	0.20	0.013	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00050	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Boron	0.137	0.10	0.063	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Chromium	ND	0.010	0.0020	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Copper	ND	0.010	0.0059	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Iron	2.44	0.10	0.032	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Lead	ND	0.0030	0.0018	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Manganese	0.0300	0.015	0.0014	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Mercury	ND	0.00020	0.000095	mg/l	1	07/16/18	07/16/18 DP	SW846 7470A ¹	SW846 7470A ⁶
Nickel	ND	0.010	0.0017	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Selenium	ND	0.010	0.0049	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Thallium	ND	0.0010	0.00017	mg/l	2	07/13/18	07/16/18 ZC	SW846 6020B ²	SW846 3010A ⁵
Zinc	ND	0.020	0.0069	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴

(1) Instrument QC Batch: MA44844

(2) Instrument QC Batch: MA44855

(3) Instrument QC Batch: MA44875

(4) Prep QC Batch: MP8081

(5) Prep QC Batch: MP8081A

(6) Prep QC Batch: MP8121

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: 8-WAY-001-005-02**Lab Sample ID:** JC69654-2**Matrix:** AQ - Ground Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	171	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320 B-11	
Bromide	0.48 J	0.50	0.060	mg/l	1	07/13/18 17:02 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	11.1 J	20	6.3	mg/l	1	07/17/18 17:20 ST	SM5220 C-11, HACH8000	
Chloride	103	20	0.70	mg/l	10	07/15/18 05:11 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	1220	10	6.2	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	0.18 J	0.20	0.14	mg/l	1	07/18/18 10:34 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	1950	10	1.8	mg/l	1	07/13/18 16:05 RC	SM2540 C-11	
Sulfate	906	200	53	mg/l	100	07/15/18 06:35 NV	EPA 300/SW846 9056A	
Total Organic Carbon	1.8	1.0	0.60	mg/l	1	07/17/18 13:07 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

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Client Sample ID:	8-WAY-001-005-03	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-3	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177324.D	1	07/13/18 10:39	RS	n/a	n/a	VX7533
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

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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:	8-WAY-001-005-03	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-3	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	98%		81-124%
2037-26-5	Toluene-D8	99%		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	

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	8-WAY-001-005-03	
Lab Sample ID:	JC69654-3	Date Sampled: 07/10/18
Matrix:	AQ - Ground Water	Date Received: 07/11/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P69733.D	1	07/14/18 03:11	SA	07/13/18 06:00	OP13466A	E3P3303
Run #2							

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

BN PAH List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		29-124%
321-60-8	2-Fluorobiphenyl	62%		23-122%
1718-51-0	Terphenyl-d14	70%		22-130%

ND = Not detected MDL = Method Detection 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

Page 1 of 2

Client Sample ID:	8-WAY-001-005-03	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-3	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q49195.D	1	07/18/18 18:47	AFL	07/16/18 09:00	F:OP70903	F:SQ1182
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	17	4.2	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	ND	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	ND	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	ND	4.2	2.1	ng/l	
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	8.3	2.1	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	ND	8.3	2.1	ng/l	
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	90%		30-140%
	13C5-PFPeA	93%		40-140%
	13C5-PFHxA	95%		50-150%
	13C4-PFHpA	92%		50-150%
	13C8-PFOA	102%		50-150%
	13C9-PFNA	83%		50-150%
	13C6-PFDA	85%		50-150%
	13C7-PFUnDA	78%		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:	8-WAY-001-005-03	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-3	Date Received:	07/11/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	72%		50-150%
	13C2-PFTeDA	76%		40-150%
	13C3-PFBS	90%		50-150%
	13C3-PFHxS	81%		50-150%
	13C8-PFOS	72%		50-150%
	13C8-FOSA	56%		30-140%
	d3-MeFOSAA	78%		50-150%
	13C2-6:2FTS	93%		50-150%
	13C2-8:2FTS	80%		50-150%

(a) Analysis performed at SGS Orlando, FL.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-005-03**Lab Sample ID:** JC69654-3**Matrix:** AQ - Ground Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	0.0025	0.0010	0.00094	mg/l	2	07/13/18	07/16/18 ZC	SW846 6020B ²	SW846 3010A ⁵
Barium	0.0399 J	0.20	0.013	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Beryllium	ND	0.0010	0.00050	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Boron	ND	0.10	0.063	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Chromium	0.0020 J	0.010	0.0020	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Copper	ND	0.010	0.0059	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Iron	2.04	0.10	0.032	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Lead	ND	0.0030	0.0018	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Manganese	0.0447	0.015	0.0014	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Mercury	ND	0.00020	0.000095	mg/l	1	07/16/18	07/16/18 DP	SW846 7470A ¹	SW846 7470A ⁶
Nickel	ND	0.010	0.0017	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Selenium	ND	0.010	0.0049	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Thallium	ND	0.0010	0.00017	mg/l	2	07/13/18	07/16/18 ZC	SW846 6020B ²	SW846 3010A ⁵
Zinc	ND	0.020	0.0069	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴

(1) Instrument QC Batch: MA44844

(2) Instrument QC Batch: MA44855

(3) Instrument QC Batch: MA44875

(4) Prep QC Batch: MP8081

(5) Prep QC Batch: MP8081A

(6) Prep QC Batch: MP8121

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: 8-WAY-001-005-03**Lab Sample ID:** JC69654-3**Matrix:** AQ - Ground Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY**General Chemistry**

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	262	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320 B-11	
Bromide	0.26 J	0.50	0.060	mg/l	1	07/13/18 18:26 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	ND	20	6.3	mg/l	1	07/17/18 17:20 ST	SM5220 C-11, HACH8000	
Chloride	113	10	0.35	mg/l	5	07/15/18 08:54 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	670	4.0	2.5	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	ND	0.20	0.14	mg/l	1	07/18/18 10:36 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	880	10	1.8	mg/l	1	07/13/18 16:05 RC	SM2540 C-11	
Sulfate	376	60	16	mg/l	30	07/15/18 09:22 NV	EPA 300/SW846 9056A	
Total Organic Carbon	1.1	1.0	0.60	mg/l	1	07/17/18 13:24 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 2

Client Sample ID:	8-WAY-001-005-04	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-4	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177327.D	1	07/13/18 12:13	RS	n/a	n/a	VX7533
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	6.6	10	5.0	ug/l	J
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 ^a	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene ^a	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene ^a	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane ^a	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:	8-WAY-001-005-04	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-4	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	98%		81-124%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

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

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

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:	8-WAY-001-005-04	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-4	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P69725.D	1	07/14/18 00:21	SA	07/13/18 06:01	OP13466A	E3P3303
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.025	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.021	ug/l	
120-12-7	Anthracene	ND	0.10	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.023	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.050	0.033	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.043	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.033	ug/l	
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.036	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.022	ug/l	
86-73-7	Fluorene	ND	0.10	0.025	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.038	ug/l	
91-20-3	Naphthalene	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 ^a	0.325	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		29-124%
321-60-8	2-Fluorobiphenyl	61%		23-122%
1718-51-0	Terphenyl-d14	41%		22-130%

(a) Associated CCV outside of control limits high.

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:	8-WAY-001-005-04	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-4	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2Q17480.D	1	07/20/18 21:14	AFL	07/19/18 16:00	F:OP70978	F:S2Q299
Run #2							

	Initial Volume	Final Volume
Run #1	120 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	10.9	17	4.2	ng/l	J
2706-90-3	Perfluoropentanoic acid	8.64	8.3	3.1	ng/l	
307-24-4	Perfluorohexanoic acid	10.1	8.3	2.1	ng/l	
375-85-9	Perfluoroheptanoic acid	17.9	4.2	2.1	ng/l	
335-67-1	Perfluorooctanoic acid	751	4.2	2.1	ng/l	
375-95-1	Perfluorononanoic acid	3.55	4.2	2.1	ng/l	J
335-76-2	Perfluorodecanoic acid	ND	8.3	2.1	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	8.3	2.1	ng/l	
307-55-1	Perfluorododecanoic acid	ND	8.3	3.1	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	8.3	2.1	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	8.3	2.1	ng/l	
375-73-5	Perfluorobutanesulfonic acid	5.47	4.2	2.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	9.76	4.2	2.1	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	4.68	8.3	2.1	ng/l	J
1763-23-1	Perfluorooctanesulfonic acid	177	4.2	3.1	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	8.3	2.1	ng/l	
754-91-6	PFOSA	3.10	8.3	2.1	ng/l	J
2355-31-9	MeFOSAA	ND	42	8.3	ng/l	
2991-50-6	EtFOSAA	ND	42	8.3	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	17	4.2	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	71%		30-140%
	13C5-PFPeA	73%		40-140%
	13C5-PFHxA	76%		50-150%
	13C4-PFHpA	79%		50-150%
	13C8-PFOA	71%		50-150%
	13C9-PFNA	75%		50-150%
	13C6-PFDA	62%		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

Page 2 of 2

Client Sample ID:	8-WAY-001-005-04	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-4	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	EPA 537M BY ID IN HOUSE		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	50%		50-150%
	13C2-PFTeDA	49%		40-150%
	13C3-PFBS	73%		50-150%
	13C3-PFHxS	68%		50-150%
	13C8-PFOS	58%		50-150%
	13C8-FOSA	57%		30-140%
	d3-MeFOSAA	66%		50-150%
	13C2-6:2FTS	75%		50-150%
	13C2-8:2FTS	61%		50-150%

(a) Analysis performed at SGS Orlando, FL.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 8-WAY-001-005-04**Lab Sample ID:** JC69654-4**Matrix:** AQ - Surface Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	0.0397	0.0050	0.0047	mg/l	2	07/13/18	07/16/18 ZC	SW846 6020B ²	SW846 3010A ⁵
Barium	1.87	1.0	0.067	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Beryllium	0.0035 J	0.0050	0.0025	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Boron	0.531	0.50	0.31	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Chromium	0.0925	0.050	0.010	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Copper	0.162	0.050	0.030	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Iron	116	0.50	0.16	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Lead	0.130	0.015	0.0090	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Manganese	19.7	0.075	0.0070	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Mercury ^a	0.0010	0.00060	0.00029	mg/l	1	07/16/18	07/16/18 DP	SW846 7470A ¹	SW846 7470A ⁶
Nickel	0.0765	0.050	0.0085	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Selenium	ND	0.050	0.025	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴
Thallium	0.0011 J	0.0050	0.00084	mg/l	2	07/13/18	07/16/18 ZC	SW846 6020B ²	SW846 3010A ⁵
Zinc	0.962	0.10	0.035	mg/l	1	07/13/18	07/19/18 ND	SW846 6010D ³	SW846 3010A ⁴

(1) Instrument QC Batch: MA44844

(2) Instrument QC Batch: MA44855

(3) Instrument QC Batch: MA44875

(4) Prep QC Batch: MP8081

(5) Prep QC Batch: MP8081A

(6) Prep QC Batch: MP8121

(a) Elevated sample detection limit due to difficult sample matrix.

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: 8-WAY-001-005-04**Lab Sample ID:** JC69654-4**Matrix:** AQ - Surface Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY**General Chemistry**

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	753	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320	B-11
Bromide	1.7	0.50	0.060	mg/l	1	07/13/18 18:54 NV	EPA 300/SW846	9056A
Chemical Oxygen Demand	44.5	20	6.3	mg/l	1	07/17/18 17:20 ST	SM5220 C-11,	HACH8000
Chloride	325	60	2.1	mg/l	30	07/15/18 09:50 NV	EPA 300/SW846	9056A
Hardness, Total as CaCO ₃	984	10	6.2	mg/l	1	07/17/18 17:39 MP	SM2340	C-11
Nitrogen, Ammonia	0.47	0.20	0.14	mg/l	1	07/18/18 10:37 BM	SM4500NH3 H-11	LACHAT
Solids, Total Dissolved	620	10	1.8	mg/l	1	07/13/18 16:05 RC	SM2540	C-11
Sulfate	0.89 J	2.0	0.53	mg/l	1	07/13/18 18:54 NV	EPA 300/SW846	9056A
Total Organic Carbon	12.2	1.0	0.60	mg/l	1	07/17/18 14:03 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 2

Client Sample ID:	8-WAY-001-005-05	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-5	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177328.D	1	07/13/18 12:44	RS	n/a	n/a	VX7533
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	8.5	10	5.0	ug/l	J
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 ^a	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene ^a	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene ^a	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	0.54	1.0	0.22	ug/l	J
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane ^a	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:	8-WAY-001-005-05	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-5	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	12.4	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	99%		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	

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

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

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

Report of Analysis

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Client Sample ID:	8-WAY-001-005-05	
Lab Sample ID:	JC69654-5	Date Sampled: 07/10/18
Matrix:	AQ - Surface Water	Date Received: 07/11/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P69735.D	1	07/14/18 03:53	SA	07/13/18 06:00	OP13466A	E3P3303
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.095	0.023	ug/l	
208-96-8	Acenaphthylene	ND	0.095	0.020	ug/l	
120-12-7	Anthracene	ND	0.095	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.048	0.022	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.048	0.032	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.095	0.041	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.095	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.095	0.032	ug/l	
218-01-9	Chrysene	ND	0.095	0.025	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.095	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.095	0.021	ug/l	
86-73-7	Fluorene	ND	0.095	0.023	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.095	0.036	ug/l	
91-20-3	Naphthalene	ND	0.095	0.028	ug/l	
85-01-8	Phenanthrene	ND	0.095	0.022	ug/l	
129-00-0	Pyrene	ND	0.095	0.018	ug/l	
123-91-1	1,4-Dioxane	0.111	0.095	0.046	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		29-124%
321-60-8	2-Fluorobiphenyl	51%		23-122%
1718-51-0	Terphenyl-d14	33%		22-130%

ND = Not detected MDL = Method Detection 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

Page 1 of 2

Client Sample ID:	8-WAY-001-005-05	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-5	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q49201.D	1	07/18/18 20:40	AFL	07/16/18 09:00	F:OP70903	F:SQ1182
Run #2 ^a	2Q17437.D	2	07/20/18 04:56	AFL	07/16/18 09:00	F:OP70903	F:S2Q298

	Initial Volume	Final Volume
Run #1	130 ml	1.0 ml
Run #2	130 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	145	15	3.8	ng/l	
2706-90-3	Perfluoropentanoic acid	25.8	7.7	2.9	ng/l	
307-24-4	Perfluorohexanoic acid	30.1	7.7	1.9	ng/l	
375-85-9	Perfluoroheptanoic acid	41.2	3.8	1.9	ng/l	
335-67-1	Perfluorooctanoic acid	540 ^b	7.7	3.8	ng/l	
375-95-1	Perfluorononanoic acid	4.37	3.8	1.9	ng/l	
335-76-2	Perfluorodecanoic acid	ND	7.7	1.9	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	7.7	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	ND	7.7	2.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	7.7	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid ^c	ND	7.7	1.9	ng/l	
375-73-5	Perfluorobutanesulfonic acid	8.87	3.8	1.9	ng/l	
355-46-4	Perfluorohexanesulfonic acid	17.9	3.8	1.9	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	5.97	7.7	1.9	ng/l	J
1763-23-1	Perfluorooctanesulfonic acid	176	3.8	2.9	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	7.7	1.9	ng/l	
754-91-6	PFOSA	3.15	7.7	1.9	ng/l	J
2355-31-9	MeFOSAA	ND	38	7.7	ng/l	
2991-50-6	EtFOSAA	ND	38	7.7	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate ^d	ND ^b	31	7.7	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	15	3.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	62%		30-140%
	13C5-PFPeA	69%		40-140%
	13C5-PFHxA	80%		50-150%
	13C4-PFHpA	86%		50-150%
	13C8-PFOA		68%	50-150%
	13C9-PFNA	106%		50-150%
	13C6-PFDA	87%		50-150%
	13C7-PFUnDA	98%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	8-WAY-001-005-05	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-5	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	74%		50-150%
	13C2-PFTeDA	44%		40-150%
	13C3-PFBS	70%		50-150%
	13C3-PFHxS	77%		50-150%
	13C8-PFOS	73%		50-150%
	13C8-FOSA	76%		30-140%
	d3-MeFOSAA	79%		50-150%
	13C2-6:2FTS		75%	50-150%
	13C2-8:2FTS	147%		50-150%

- (a) Analysis performed at SGS Orlando, FL.
 (b) Result is from Run# 2
 (c) Associated CCV outside of control limits high, sample was ND.
 (d) Dilution required due to matrix interference (internal standard failure).

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: 8-WAY-001-005-05**Lab Sample ID:** JC69654-5**Matrix:** AQ - Surface Water**Date Sampled:** 07/10/18**Date Received:** 07/11/18**Percent Solids:** n/a**Project:** PESNYL: ILI - Region 8, Palmyra Landfill, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Arsenic	0.0471	0.0050	0.0047	mg/l	2	07/13/18	07/16/18	ZC	SW846 6020B ²	SW846 3010A ⁵
Barium ^a	1.63	1.0	0.067	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Beryllium ^a	0.0035 J	0.0050	0.0025	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Boron ^a	1.48	0.50	0.31	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Chromium ^a	0.0980	0.050	0.010	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Copper ^a	0.229	0.050	0.030	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Iron ^a	142	0.50	0.16	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Lead ^a	0.209	0.015	0.0090	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Manganese ^a	6.58	0.075	0.0070	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Mercury ^a	0.0020	0.00060	0.00029	mg/l	1	07/16/18	07/16/18	DP	SW846 7470A ¹	SW846 7470A ⁶
Nickel ^a	0.0990	0.050	0.0085	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Selenium ^a	ND	0.050	0.025	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴
Thallium	0.00094 J	0.0050	0.00084	mg/l	2	07/13/18	07/16/18	ZC	SW846 6020B ²	SW846 3010A ⁵
Zinc ^a	1.44	0.10	0.035	mg/l	1	07/13/18	07/19/18	ND	SW846 6010D ³	SW846 3010A ⁴

(1) Instrument QC Batch: MA44844

(2) Instrument QC Batch: MA44855

(3) Instrument QC Batch: MA44875

(4) Prep QC Batch: MP8081

(5) Prep QC Batch: MP8081A

(6) Prep QC Batch: MP8121

(a) Elevated sample detection limit due to difficult sample matrix.

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:	8-WAY-001-005-05	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-5	Date Received:	07/11/18
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	1060	5.0	1.1	mg/l	1	07/13/18 15:00 FO	SM2320 B-11	
Bromide	1.9	0.50	0.060	mg/l	1	07/13/18 20:18 NV	EPA 300/SW846 9056A	
Chemical Oxygen Demand	103	20	6.3	mg/l	1	07/17/18 17:20 ST	SM5220 C-11, HACH8000	
Chloride	283	60	2.1	mg/l	30	07/15/18 10:18 NV	EPA 300/SW846 9056A	
Hardness, Total as CaCO ₃	1420	20	12	mg/l	1	07/17/18 17:39 MP	SM2340 C-11	
Nitrogen, Ammonia	1.1	0.20	0.14	mg/l	1	07/18/18 10:39 BM	SM4500NH3 H-11 LACHAT	
Solids, Total Dissolved	960	10	1.8	mg/l	1	07/13/18 16:05 RC	SM2540 C-11	
Sulfate	15.1	2.0	0.53	mg/l	1	07/13/18 20:18 NV	EPA 300/SW846 9056A	
Total Organic Carbon	44.5	1.0	0.60	mg/l	1	07/17/18 16:06 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 2

Client Sample ID:	8-WAY-001-005-06	
Lab Sample ID:	JC69654-6	Date Sampled: 07/10/18
Matrix:	AQ - Field Blank Water	Date Received: 07/11/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids: n/a
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Q49202.D	1	07/18/18 20:59	AFL	07/16/18 09:00	F:OP70903	F:SQ1182
Run #2							

	Initial Volume	Final Volume
Run #1	130 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	15	3.8	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	7.7	2.9	ng/l	
307-24-4	Perfluorohexanoic acid	ND	7.7	1.9	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	3.8	1.9	ng/l	
335-67-1	Perfluorooctanoic acid	ND	3.8	1.9	ng/l	
375-95-1	Perfluorononanoic acid	ND	3.8	1.9	ng/l	
335-76-2	Perfluorodecanoic acid	ND	7.7	1.9	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	7.7	1.9	ng/l	
307-55-1	Perfluorododecanoic acid	ND	7.7	2.9	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	7.7	1.9	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	7.7	1.9	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	3.8	1.9	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	3.8	1.9	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	7.7	1.9	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	3.8	2.9	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	7.7	1.9	ng/l	
754-91-6	PFOSA	ND	7.7	1.9	ng/l	
2355-31-9	MeFOSAA	ND	38	7.7	ng/l	
2991-50-6	EtFOSAA	ND	38	7.7	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	15	3.8	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	15	3.8	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	75%		30-140%
	13C5-PFPeA	78%		40-140%
	13C5-PFHxA	79%		50-150%
	13C4-PFHpA	80%		50-150%
	13C8-PFOA	91%		50-150%
	13C9-PFNA	81%		50-150%
	13C6-PFDA	82%		50-150%
	13C7-PFUnDA	77%		50-150%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	8-WAY-001-005-06	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-6	Date Received:	07/11/18
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	71%		50-150%
	13C2-PFTeDA	70%		40-150%
	13C3-PFBS	77%		50-150%
	13C3-PFHxS	77%		50-150%
	13C8-PFOS	71%		50-150%
	13C8-FOSA	69%		30-140%
	d3-MeFOSAA	77%		50-150%
	13C2-6:2FTS	85%		50-150%
	13C2-8:2FTS	76%		50-150%

(a) Analysis performed at SGS Orlando, FL.

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

Report of Analysis

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Client Sample ID:	8-WAY-001-005-07	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-7	Date Received:	07/11/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra Landfill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X177323.D	1	07/13/18 10:08	RS	n/a	n/a	VX7533
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	1.9	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.38	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide ^a	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
110-57-6	trans-1,4-Dichloro-2-Butene ^a	ND	5.0	1.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene ^a	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
74-88-4	Iodomethane ^a	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:	8-WAY-001-005-07	Date Sampled:	07/10/18
Lab Sample ID:	JC69654-7	Date Received:	07/11/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	PESNYL: ILI - Region 8, Palmyra 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	91%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

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

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

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

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

CHAIN-OF-CUSTODY / Analytical Request Document																																																																																																																																																																																																																																																																
Section A Laboratory Information					Section B Client Information					COC #: 8-WAY-001-005																																																																																																																																																																																																																																																						
Lab Name: SGS - Accutest					Company: Parsons					Project Name: ILI - Region 8																																																																																																																																																																																																																																																						
Attention: Kristin Degraw					Attention: George Moreau					Project Site: Palmyra Landfill																																																																																																																																																																																																																																																						
Address: Route 2235 Route 130; Dayton, NJ 08810					Address: 301 Plainfield Road, Suite 350 Syracuse, NY 13212					Project Number: 450619																																																																																																																																																																																																																																																						
Phone: 732-329-0200					Phone: 315-552-9715																																																																																																																																																																																																																																																											
Email: Kristin.Degraw@sgs.com					Email: George.H.Moreau@parsons.com																																																																																																																																																																																																																																																											
Section C Deliverable Requirements					Section D Additional Information					Preservative codes (for water only): <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td> </tr> <tr> <td>Acetic Acid (V)</td> <td>Ascorbic Acid (V)</td> <td>Boric Acid (V)</td> <td>Hydrochloric Acid (V)</td> <td>Hydrofluoric Acid (V)</td> <td>Hydrogen Peroxide (V)</td> <td>Hydroxide (V)</td> <td>None (V)</td> <td>None (V)</td> <td>None (V)</td> </tr> </table>					1	2	3	4	5	6	7	8	9	10	Acetic Acid (V)	Ascorbic Acid (V)	Boric Acid (V)	Hydrochloric Acid (V)	Hydrofluoric Acid (V)	Hydrogen Peroxide (V)	Hydroxide (V)	None (V)	None (V)	None (V)																																																																																																																																																																																																																														
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Report To: George.H.Moreau@parsons.com					TAT - 10 Day																																																																																																																																																																																																																																																											
Copy To: Lorraine.Weber@parsons.com; Laura.Drachenberg@parsons.com Maryanne.Kosciewicz@parsons.com; Heather.Fettig@parsons.com																																																																																																																																																																																																																																																																
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Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (H3PO4). Requested by: [Signature] 7/10/18 17:00																																																																																																																																																																																																																																																																

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44-38861-174

ASSESSMENT

2.1. PREPARATION

JC69654: Chain of Custody

Page 2 of 3

SGS Sample Receipt Summary

Job Number: JC69654

Client: PARSONS

Project: PESNYL: ILI - REGION 8, PALMYRA LANDFILL,

Date / Time Received: 7/11/2018 10:15:00 AM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.3); Cooler 2: (3.8); Cooler 3: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (2.3); Cooler 2: (3.8); Cooler 3: (3.9);

Cooler Security
Y or N

1. Custody Seals Present:

☒ ☐

3. COC Present:

☒ ☐

2. Custody Seals Intact:

☒ ☐

4. Smpl Dates/Time OK

☒ ☐
Cooler Temperature
Y or N

1. Temp criteria achieved:

☒ ☐

2. Cooler temp verification:

IR Gun

3. Cooler media:

Ice (Bag)

4. No. Coolers:

3

Quality Control Preservation
Y or N
N/A

1. Trip Blank present / cooler:

☒ ☐ ☐

2. Trip Blank listed on COC:

☒ ☐ ☐

3. Samples preserved properly:

☒ ☐ ☐

4. VOCs headspace free:

☒ ☐ ☐
Sample Integrity - Documentation
Y or N

1. Sample labels present on bottles:

☒ ☐

2. Container labeling complete:

☒ ☐

3. Sample container label / COC agree:

☒ ☐
Sample Integrity - Condition
Y or N

1. Sample recvd within HT:

☒ ☐

2. All containers accounted for:

☒ ☐

3. Condition of sample:

Intact

Sample Integrity - Instructions
Y or N N/A

1. Analysis requested is clear:

☒ ☐

2. Bottles received for unspecified tests

☐ ☒

3. Sufficient volume recvd for analysis:

☒ ☐

4. Compositing instructions clear:

☐ ☐ ☒

5. Filtering instructions clear:

☐ ☐ ☒

Test Strip Lot #s:

pH 1-12: 216017

pH 12+: 208717

Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC69654: Chain of Custody

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