SPEONK SOLVENT PLUME

SITE MANAGEMENT
MONITORING REPORT
NOVEMBER 2019 SAMPLING EVENT

NYSDEC SITE NUMBER # 152185

FEBRUARY 11, 2020

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TABLE OF CONTENTS

TABLES

FIGURES

1.0 INTRODUCTION

This site management monitoring report summarizes the field work associated with the groundwater sampling event conducted during November 2019 by Environmental Assessment & Remediations (EAR) for the New York State Department of Environmental Conservation (NYSDEC) in association with NYSDEC Site Number 152185. Site management commenced following the submittal of the December 2011 Site Characterization Report for the Speonk Solvent Plume (CDM). Sampling has been conducted every fifth quarter since July 2014 to monitor groundwater for dissolved concentrations of volatile organic compounds (VOCs). The May 2018 groundwater sampling event included laboratory analysis of emerging contaminants, including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane, for selected wells. Monitoring of PFAS and 1,4-dioxane concentrations detected in groundwater during the April-May 2018 groundwater sampling event continued during November 2019.

Between November 21, 2019 and November 26, 2019, groundwater samples were collected by EAR from 25 discrete sampling points within the single and multilevel well monitoring network. A summary of EARs actions, findings and supporting figures are provided in this document. The next site management sampling event is scheduled to begin in May 2020. A site location map has been included as **Figure 1.**

1.1 BACKGROUND

In October 2013, the NYSDEC directed EAR to begin the implementation of the Speonk Solvent Plume Management Monitoring. Subsequent to the site walk on October 24, 2013, the following tasks were completed:

- In November 2013, one multi-level well (ML-5) was installed on the south side of Horse Shoe Lane.
- Between January and March 2014, MJ Engineering and Land Surveying, P.C of Clifton Park, New York surveyed 72 discrete sampling points to obtain data required to calculate groundwater hydraulic head and groundwater flow direction. In addition, 38 Suffolk County Water Authority fire hydrants were surveyed to incorporate wells added to the monitoring network in the future.
- Pressure transducers were installed in 17 monitoring wells in April 2014 to establish horizontal groundwater flow direction. The wells were selected based on screen elevation, well diameter, distance between wells and spatial distribution. The depth of each well ranges from approximately 20 feet below ground surface (BGS) and 40 feet BGS. The pressure head data was compiled after download and processed to calculate groundwater elevations. Calculated groundwater elevations were then processed using a geostatistical method (Kriging[1]) to estimate groundwater elevation values between locations and to determine groundwater flow direction. No extrapolation of data was conducted outside the domain of the pressure transducer locations. The groundwater flow for the western portion of the plume appears to be moving south-south west. The groundwater flow for the eastern portion of the plume appears to move south-south east.

[1] Kriging is a statistical based unbiased estimator for spatial variables which retains the observed data point values. The spatial variation is quantified by using weighted averages of neighboring samples to estimate the "unknown" values at a given location using a semi-variogram model. The semi-variogram provides a description of how spatial data is related (correlated) with distance by a calibrated mathematical function. The mathematical function is then used during the kriging procedure to determine the interpolation weights and then all the "unknown" values. The limitation of kriging is that it requires a spatial semi-variogram model be specified which may be difficult with sparse data. The general rule for construction of a semi-variogram is that the number of data points should be greater than 30 in order to minimize errors with the calculated semi-variogram model parameters. As mentioned above, the attached figures represent a spatial distribution of the chemicals of concern. However, the limited data sets allow for uncertainties and the visualizations may not represent the actual extent of the plume

- Once groundwater flow direction was established, three additional monitoring wells were installed (ML-1, ML-2 and ML-3) via hollow stem auger drilling in May 2014. Clay was observed on the hollow stem augers during the installation of ML-1 and ML-3.

- Following the installation of the multi-level wells, a groundwater sampling plan was developed, and the initial groundwater monitoring event was conducted in July 2014. Details of the well installation, site survey, the groundwater flow study and the initial groundwater sampling event were included in the Project Summary Letter Report submitted under a separate cover by EAR in November 2014.

- Groundwater samples were collected by EAR from 124 discrete sampling points during the period of October 5 through 21, 2015 to further develop the site conceptual model. Samples were analyzed for VOCs (EAR, April 2016, Site Management Monitoring Report Fall 2015 Sampling Event).

- Groundwater samples were collected by EAR from 123 discrete sampling points during the period of January 11 through February 6, 2017 to further develop the site conceptual model. Samples were analyzed for VOCs (EAR, May 2017, Site Management Monitoring Report January 2017 Sampling Event).

- Groundwater samples were collected by EAR from 130 discrete sampling points during the period of April 23 through May 16, 2018 to further develop the site conceptual model. Samples were analyzed for VOCs with select samples analyzed for PFAS and 1,4-dioxane (EAR, May 2019, Site Management Monitoring Report April-June 2018 Sampling Event).

2.0 MONITORING WELL NETWORK

Multi-level wells provide permanent discrete sampling locations for the continued monitoring of the plume. Each multi-level well contains nine individual sampling points, or small diameter monitoring wells, at varying depths. Each individual well is constructed of schedule 40 PVC riser and a section of 0.020-inch slotted PVC screen. The diameter, depths, and screen intervals of each multi-level well vary with site conditions and locations. In addition to the four multi-level wells (35 discrete sampling points), 96 monitoring wells (sampling points) of varying sizes, depths and screen zones were previously installed as part of the site characterization. A site location map with well locations are included as **Figure 2.**

2.1 WATER LEVEL GAUGING

During the November 2019 groundwater sampling event, manual depth-to-water measurements from 25 selected well points were recorded over a 3-day period. Measured groundwater depths ranged from 18 to 29 feet BGS. Calculated groundwater elevations from wells ranging in depth from 20-40 feet BGS were then processed using a geostatistical method (kriging) to estimate groundwater elevation values between locations and to determine groundwater flow direction.

Monitoring well gauging results are provided in **Table 1**. A visualization of the groundwater elevation contour lines, which represent the upper aquifer, is included as **Figure 3.**

2.2 GROUNDWATER SAMPLING EVENT

Groundwater samples were collected from 25 discrete sampling points within the well monitoring network Between November 21 and November 26, 2019 to obtain groundwater quality data. Prior to sampling, all wells were gauged to determine the height of the water column and corresponding volume of standing water in the well. Groundwater field screening was conducted by EAR personnel using a water quality meter (YSI 556 or similar) and flow-through cell to determine stabilization. Using low flow techniques, each discrete sampling well was purged through the flow-through cell for at least one well volume prior to screening for temperature, pH, and specific conductivity. Dissolved oxygen concentrations and oxidation/reduction potential (ORP) readings were also recorded prior to sample collection.

Groundwater samples were collected according to EAR's standard procedures to prevent cross-contamination between the wells and to ensure sample integrity. Field blank and equipment blank samples were collected and two matrix spike/matrix spike duplicate samples (MS/MSDS) were collected to evaluate integrity of sampling collection and determine if cross-contamination between samples occurred during storage and transportation. Blind duplicate samples were collected to confirm analytical reproducibility.

Samples were submitted to TestAmerica Laboratories, Inc. of Edison, New Jersey (TestAmerica) from the selected 25 sampling points and analyzed for PFAS compounds via EPA Modified E537 and 1,4 Dioxane via EPA method 8270D SIMs. Sample containers and transport coolers were provided by the laboratory. PFAS free deionized water was provided by TestAmerica and utilized to decontaminate equipment between each sampling point analyzed for PFAS. Upon collection, samples were immediately placed in a cooler with ice to maintain a temperature of 4 degrees Celsius prior to delivery to the lab and/or courier. Chain-of-Custody forms were completed by groundwater sampling personnel and possession was maintained between sampling personnel and the laboratory.

Environmental Data Services, Inc. of Williamsburg, Virginia (EDS) completed a Data Usability Summary Review (DUSR) on all PFAS and 1,4 Dioxane analytical data received from TestAmerica. The groundwater sample analytical results were analyzed according to the protocols and quality control requirements for the analytical methods, the NYSDEC Data Review Guidelines for Analysis of PFA in Non-Potable Water and Solids, October 2019, and the United States Environmental Protection Agency (USEPA) Data Review and Validation guidelines outlined in the data usability reports prepared by EDS. EDS did not reject any data; however, qualifiers were added to select analytes. The qualifiers were incorporated in the summary of the groundwater analytical results included as **Table 2**. The completed DUSRs are included as **Appendix A**.

2.3 GROUNDWATER SAMPLING RESULTS

Laboratory data indicates that eight PFAS analytes were detected above laboratory reporting limits. Perfluorooctanoic acid (PFOA) was detected above the USEPA Health Advisory Level of 70 nanograms/Liter (ng/L) in two of the groundwater samples collected. The New York State Department of Health (NYSDOH) is proposing to lower the advisory level to 10 ng/L, however this standard or guidance value is not promulgated. PFOA, Perfluorooctanesulfonic Acid (PFOS), and/or combined concentrations of PFOA and PFOS were detected above the proposed NYSDOH advisory level in seven of the analyzed groundwater samples. A summary is provided below, with exceedances shown in bold:

Sampling Location	Depth (ft)	PFOA (ng/L)	PFOS (ng/L)	Combined PFOA & PFOS (ng/L)	USEPA Health Advisory Level (ng/L)	Proposed NYSDOH Advisory Level (ng/L)
SP-18S	28-30	3.53	7.41	**10.9**	**70**	**10**
SP-22P	75-80	**101**	<1.81	**101**		
SP-22S	25-30	7.62	8.7	**16.3**		
SP-32	28-30	**16.5**	7.16	**23.7**		
SP-50M	85-87	**91.1**	<1.77	**91.1**		
SP-62	39-40	4.96	**14.1**	**19.1**		
SP-90	38-40	**16.5**	5.96	**22.5**		

Laboratory data indicates that 1,4 Dioxane was detected in 10 of the samples collected. Currently, there is no USEPA advisory level for 1,4 Dioxane, however an advisory level of 1 microgram per Liter (ug/L) has been proposed by the NYSDOH. 1,4 Dioxane was detected above proposed NYSDOH advisory level in three of the groundwater samples collected.

Sampling Location	Depth	1,4-Dioxane (ug/L)	Proposed NYSDOH Advisory Level (ug/L)
SP-22P	75-80	**6.5**	**1**
SP-23P	85-90	**8.4**	
SP-48	121-122	**7.4**	

Summaries of the groundwater analytical, field screening and relative percent difference data are included as **Table 2** through **Table 4**. Summaries of trip, field blank and equipment blank detections are included in **Appendix B**. A table comparing Suffolk County Department of Health Services (SCDHS) well identifications with EAR well identifications is included as **Table 5**.

Chemical distributions of PFAS and 1,4 Dioxane have been graphically depicted with a series of post maps (**Figure 4** through **Figure 11**), using the dataset accumulated from the November 2019 groundwater sampling event. The geospatial interpolation method applied to all data input files is kriging; this is one of the computational modules of the commercially available environmental visualization software (Mining Visualization Systems EVS/MVS, by C Tech Development Corporations) that EAR uses from pre-processed data input, to dataset calculations and output graphics. Kriging parameters and variograms may be issued upon request.

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Groundwater Gauging Results

		PT Download		PT Download		PT Download		PT Download		PT Download		GWS Round 1		PT Download		PT Download		PT Download		PT Removal		Gauging Event		Gauging Event		GWS Round 2		GWS Round 2		GWS Round 2		GWS Round 3		GWS Round 4		Nov 2019 GWS	
		March 6-7 2014		March 14, 2014		April 1, 2014		April 10, 2014		April 14, 2014		July 8-29, 2014		October 17, 2014		October 24, 2014		November 10, 2014		April 29-30, 2015		May 7, 2015		October 12, 2015		October 5, 2015		October 5-21, 2015		October 7, 2015		January 11-February 6, 2017		April 23-May16, 2018		November 21-26, 2019	
Well	Casing Elevation	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL
ML-1 (30)*	21.55											19.13	2.42											18.96	2.59			19.01	2.54			19.41	2.14	18.69	2.86		
ML-1 (40)*	21.57											19.06	2.51											18.95	2.62			18.97	2.60			19.41	2.16	18.67	2.90	19.01	2.56
ML-1 (50)*	21.55											19.03	2.52											18.94	2.61			18.91	2.64			19.38	2.17	18.65	2.90		
ML-1 (60)*	21.56											19.06	2.50											18.97	2.59			19.03	2.53			19.41	2.15	18.68	2.88		
ML-1 (65)*	21.57											19.03	2.54											18.97	2.60			19.00	2.57			19.41	2.16	18.70	2.87		
ML-1 (70)*	21.55											19.08	2.47											18.94	2.61			18.97	2.58			19.41	2.14	18.65	2.90		
ML-1 (80)*	21.57											19.18	2.39											18.98	2.59			18.99	2.58			19.42	2.15	18.75	2.82	19.02	2.55
ML-1 (90)	21.49											19.15	2.34											18.98	2.51			19.01	2.48			19.43	2.06	18.74	2.75		
ML-2 (30)*	6.17											3.13	3.04			3.39	2.78	3.58	2.59	2.76	3.41			3.24	2.93			3.28	2.89			3.60	2.57	2.45	3.72		
ML-2 (40)*	6.21											3.13	3.08							2.90	3.31			3.28	2.93			3.30	2.91			3.66	2.55	2.52	3.69		
ML-2 (50)*	6.18											3.09	3.09							2.92	3.26			3.25	2.93			3.31	2.87			3.64	2.54	2.43	3.75		
ML-2 (60)*	6.19											3.13	3.06							2.77	3.42			3.26	2.93			3.29	2.90			3.56	2.63	2.44	3.75		
ML-2 (65)*	6.19											3.13	3.06							2.80	3.39			3.25	2.94			3.30	2.89			3.56	2.63	2.51	3.68		
ML-2 (70)*	6.17											3.12	3.05							2.75	3.42			3.22	2.95			3.29	2.88			3.54	2.63	2.33	3.84		
ML-2 (80)*	6.22											3.09	3.13							2.82	3.40			3.27	2.95			3.31	2.91			3.60	2.62	2.50	3.72		
ML-2 (90)*	6.16											3.04	3.12							2.78	3.38			3.24	2.92			3.31	2.85			3.59	2.57	2.43	3.73		
ML-2 (120)	6.29											3.16	3.13							2.86	3.43			3.30	2.99			3.39	2.90			3.62	2.67	2.50	3.79		
ML-3 (30)*	6.11											4.41	1.70			4.17	1.94	4.48	1.63	4.16	1.95			4.11	2.00			4.00	2.11			4.33	1.78	3.95	2.16		
ML-3 (40)*	6.12											4.40	1.72							4.19	1.93			4.12	2.01			3.95	2.17			4.35	1.77	3.95	2.17		
ML-3 (50)*	6.11											4.39	1.72							4.15	1.96			4.11	2.00			3.96	2.15			4.35	1.76	3.93	2.18		
ML-3 (60)*	6.18											4.49	1.69							4.16	2.02			4.19	1.99			4.05	2.13			4.42	1.76	4.02	2.16		
ML-3 (65)*	6.15											4.49	1.66							4.21	1.94			4.21	1.94			4.06	2.09			4.45	1.70	4.03	2.12		
ML-3 (70)*	6.15											4.49	1.66							4.26	1.89			4.20	1.95			4.07	2.08			4.44	1.71	4.03	2.12		
ML-3 (80)*	6.15											4.46	1.69							4.20	1.95			4.18	1.97			4.05	2.10			4.44	1.71	4.03	2.12		
ML-3 (90)*	6.15											4.45	1.70							4.24	1.91			4.17	1.98			4.04	2.11			4.51	1.64	4.02	2.13		
ML-3 (120)	6.18											4.52	1.66							4.29	1.89			4.91	1.28			4.12	2.06			4.51	1.67	4.04	2.14		
ML-5 (30)*	22.29	18.89	3.40	18.91	3.38			18.13	4.16	18.65	3.64	19.09	3.20	19.62	2.67					18.66	3.63	18.80	3.49			19.37	2.92	19.33**	2.96	19.31	2.98	19.61	2.68	18.18	4.11		
ML-5 (40)*	22.23											19.05	3.18							18.65	3.58	18.75	3.48			19.30	2.93	19.29**	2.94	19.26	2.97	19.56	2.67	18.13	4.10		
ML-5 (50)*	22.27											19.05	3.22							18.69	3.58	18.79	3.48			19.32	2.95	19.33**	2.94	19.29	2.98	19.61	2.66	18.18	4.09		
ML-5 (60)*	22.29											19.03	3.26							18.71	3.58	18.81	3.48			19.37	2.92	19.34**	2.95	19.31	2.98	19.62	2.67	18.19	4.10	19.33	2.96
ML-5 (65)*	22.31											19.06	3.25							18.70	3.61	18.83	3.48			19.38	2.93	19.34**	2.97	19.31	3.00	19.62	2.69	18.19	4.12		
ML-5 (70)*	22.29	18.89	3.40	18.94	3.35	18.66	3.63					19.08	3.21							18.67	3.62	18.80	3.49			19.38	2.91	19.33**	2.96	19.30	2.99	19.60	2.69	18.18	4.11		
ML-5 (80)*	22.29											19.02	3.27							18.69	3.60	18.81	3.48			19.33	2.96	19.34**	2.95	19.33	2.96	19.62	2.67	18.20	4.09		
ML-5 (90)*	22.32											19.06	3.26							18.72	3.60	18.83	3.49			19.45	2.87	19.37**	2.95	19.32	3.00	19.61	2.71	18.21	4.11		
ML-5 (120)	22.34	18.87	3.47	18.94	3.40	18.74	3.60					19.16	3.18							18.74	3.60	18.88	3.46			19.40	2.94	19.42**	2.92	19.40	2.94	19.70	2.64	18.27	4.07	19.39	2.95
MW-23S	41.48					31.00	10.48	30.69	10.79							31.77	9.71	31.86	9.62	30.11	11.37							NM	NM			NM	NM	NM	NM		
SP-1M	34.25											23.55	10.70			24.63	9.62	24.77	9.48	22.77	11.48							31.49	2.76			25.16	9.09	22.60	11.65		
SP-1	34.25											23.68	10.57															24.85	9.40			25.29	8.96	22.74	11.51	23.90	10.35
SP-5A	38.09											26.79	11.30															28.03	10.06			28.46	9.63	28.78	9.31	26.95	11.14
SP-5B	37.83											26.59	11.24															27.80	10.03			28.49	9.34	25.55	12.28		
SP-5M	38.17											26.88	11.29															27.92	10.25^			28.54	9.63	25.68	12.49		
SP-16	28.68											22.31	6.37															22.98	5.70			23.42	5.26	21.21	7.47		
SP-16P	28.73											22.32	6.41															22.97	5.76			23.45	5.28	21.19	7.54		
SP-18S	30.00											23.55	6.45															24.25	5.75			24.73	5.27	22.48	7.52	24.05	5.95
SP-18D	30.08											23.62	6.46															24.33	5.75			24.80	5.28	22.53	7.55	24.09	5.99
SP-19	30.57											23.98	6.59															24.63	5.94			25.05	5.52	22.89	7.68		
SP-20	30.55											24.14	6.41															24.80	5.75			25.21	5.34	23.02	7.53		
SP-21	28.05											21.71	6.34															22.49	5.56			22.95	5.10	21.68	6.37		
SP-22	28.35											22.24	6.11															22.91	5.44			23.32	5.03	21.02	7.33	22.65	5.70
SP-22S	28.58											22.43	6.15															23.10	5.48			23.51	5.07	21.41	7.17	22.77	5.81
SP-23	25.56											19.77	5.79															20.59	4.97			20.87	4.69	19.73	5.83		
SP-23P	25.56																															20.98	4.58	19.71	5.85	21.43	4.13
SP-24	24.73											19.23	5.50															20.25	4.48			20.57	4.16	18.55	6.18		
SP-25	25.67											20.54	5.13															21.15	4.52			21.45	4.22	19.47	6.20		
SP-26	25.48											21.38	4.10															21.69	3.79			21.95	3.53	20.52	4.96		
SP-27	28.49											21.82	6.67															22.51	5.98			23.05	5.44	20.69	7.80		
SP-28	27.98											21.36	6.62															22.03	5.95			22.51	5.47	20.43	7.55		
SP-29	29.28											23.37	5.91															23.95	5.33			DRY	DRY	22.33	6.95		
SP-30	30.60											24.79	5.81															25.39	5.21			27.75	2.85	23.85	6.75	25.15	5.45
SP-31	28.60	23.12	5.48	22.95	5.65			22.24	6.36			24.22	4.38	23.61	4.99			23.70	4.90									23.40	5.20			23.70	4.90	21.75	6.85		
SP-32	28.11	22.08	6.03	21.85	6.26			21.10	7.01			21.56	6.55	22.48	5.63													22.27	5.84			22.75	5.36	20.58	7.53	22.92	5.19
SP-34D	**27.00**											21.89	5.11															22.38	4.62			22.77	4.23	20.83	6.17		
SP-34P	**27.00**											21.27	5.73															22.44	4.56			22.81	4.19	20.88	6.12		
SP-35	27.72											22.21	5.51															22.84	4.88			23.05	4.67	21.20	6.52		
SP-35P	27.53											22.05	5.48															22.70	4.83			23.15	4.38	21.12	6.41		
SP-36	27.50											22.79	4.71															24.63	2.87^			22.80	4.70	20.87	6.63		
SP-37	**29.00**											25.10	3.90															23.96	5.04^			24.17	4.83	22.44	6.56		
SP-39	**20.00**											17.97	2.03															18.00	2.00			18.11	1.89	17.17	2.83		
SP-40	10.16	7.21	2.95	7.27	2.89			6.53	3.63			7.45	2.71	7.74	2.42					7.09	3.07							7.35	2.81			7.59	2.57	6.80	3.36		
SP-41	23.07											19.75	3.32															19.92	3.15			20.10	2.97	18.82	4.25		
SP-42	26.17	21.77	4.40	21.64	4.53			20.90	5.27			22.30	3.87	22.42	3.75					21.13	5.04							22.09	4.08			22.35	3.82	20.70	5.47		
SP-43	26.07											21.34	4.73															21.84	4.23			24.25	1.82	20.26	5.81		
SP-44	22.14											18.52	3.62															18.82	3.32			18.53	3.61	17.05	5.09	18.52	3.62
SP-45	21.54	17.38	4.16	17.29	4.25			16.51	5.03			17.38	4.16	18.11	3.43					16.86	4.68							17.90	3.64			18.08	3.46	16.45	5.09		
SP-46	**25.00**											18.67	6.33															19.29	5.71			19.60	5.40	17.70	7.30		
SP-47	**25.00**											21.22	3.78															21.58	3.42			21.75	3.25	20.39	4.61		
SP-48	23.05											19.03	4.02															19.34	3.71			19.35	3.70	18.02	5.03	19.11	3.94
SP-48P	22.80											21.27	1.53															19.19	3.61			19.52	3.28	17.98	4.82	19.27	3.53
SP-49	26.68											21.91	4.77															22.33	4.35			22.62	4.06	20.98	5.70		
SP-50M	37.77											27.50	10.27															28.70	9.07			29.04	8.73	26.32	11.45	28.90	8.87
SP-50A	37.80											27.50	10.30															DRY	DRY			DRY	DRY	26.38	11.42		
SP-52M	35.71											27.07	8.64															28.05	7.66			28.56	7.15	26.10	9.61	27.55	8.16
SP-52A	35.71					27.16	8.55	26.72	8.99			27.04	8.67	28.08	7.63			28.23	7.48	26.39	9.32							28.05	7.66^			28.36	7.35	26.10	9.61		
SP-53	39.07											28.65	10.42							27.91	11.16							29.79	9.28			30.21	8.86	27.62	11.45	28.80	10.27

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Groundwater Gauging Results

		PT Download		PT Download		PT Download		PT Download		PT Download		GWS Round 1		PT Download		PT Download		PT Download		PT Removal		Gauging Event		Gauging Event		GWS Round 2		GWS Round 2		GWS Round 2		GWS Round 3		GWS Round 4		Nov 2019 GWS	
		March 6-7 2014		March 14, 2014		April 1, 2014		April 10, 2014		April 14, 2014		July 8-29, 2014		October 17, 2014		October 24, 2014		November 10, 2014		April 29-30, 2015		May 7, 2015		October 12, 2015		October 5, 2015		October 5-21, 2015		October 7, 2015		January 11-February 6, 2017		April 23-May16, 2018		November 21-26, 2019	
Well	Casing Elevation	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL	DTW	GWEL
SP-54 (2")	**38.00**											28.39	9.61															29.51	8.49			29.93	8.07	27.44	10.56		
SP-54 (3/4")	**38.00**											28.48	9.52															29.68	8.32			29.99	8.01	27.50	10.50		
SP-55	38.52											28.21	10.31			29.50	9.02			27.68	10.84							29.54	8.98			29.93	8.59	27.42	11.10		
SP-56	**35.00**											26.96	8.04															28.14	6.86			26.32	8.68	25.94	9.06		
SP-57	**35.00**											30.76	4.24															NA	NA			27.84	7.16	25.41	9.59		
SP-60																																DRY	DRY	DRY	DRY		
SP-61	**41.00**											30.32	10.68															31.42	9.58			32.01	8.99	29.35	11.65		
SP-62	40.98											28.56	12.42															DRY	NA			DRY	DRY	27.62	13.36	28.40	12.58
SP-63	37.97											29.85	8.12															30.62	7.35			31.04	6.93	29.00	8.97		
SP-63A	37.97	27.80	10.17	27.63	10.34			26.98	10.99			27.11	10.86			28.16	9.81	28.23	9.74	26.49	11.48							28.15	9.82			29.62	8.35	26.30	11.67		
SP-63B	35.94											30.50	5.44															26.15	9.79			30.52	5.42	24.18	11.76		
SP-63C	37.86											27.01	10.85															28.12	9.74			28.58	9.28	26.20	11.66	27.17	10.69
SP-64	**41.00**											31.78	9.22															32.48	8.52			32.79	8.21	31.13	9.87		
SP-65	**41.00**																															DRY	DRY	29.70	11.30		
SP-66	39.24																															DRY	DRY	DRY	DRY		
SP-66D	39.14											29.65	9.49															30.45	8.69			30.79	8.35	28.64	10.50		
SP-68	38.31											27.78	10.53															28.22	10.09^			28.40	9.91	27.15	11.16		
SP-69	31.66	25.19	6.47	25.01	6.65			24.40	7.26			23.37	8.29	25.49	6.17					24.41	7.25							25.40	6.26			26.61	5.05	24.21	7.45		
SP-69D	31.66											24.67	6.99															25.18	6.48			25.36	6.30	23.99	7.67		
SP-70	33.78	27.25	6.53	27.04	6.74			26.35	7.43			26.84	6.94	27.60	6.18	27.60	6.18											27.47	6.31			27.71	6.07	26.01	7.77		
SP-71	31.92	27.38	4.54	27.26	4.66			26.76	5.16			27.28	4.64	27.61	4.31					26.92	5.00							27.54	4.38			27.87	4.05	26.72	5.20		
SP-72	30.44											25.79	4.65															25.70	4.74			25.68	4.76	25.20	5.24		
SP-72D	30.21											26.04	4.17															25.79	4.42			26.12	4.09	24.95	5.26		
SP-73	27.29											22.61	4.68															22.95	4.34			23.04	4.25	21.80	5.49		
SP-74	26.39											21.51	4.88															21.89	4.50			22.10	4.29	20.75	5.64	21.88	4.51
SP-74D	26.66											22.18	4.48															22.21	4.45			22.55	4.11	24.39	2.27	21.79	4.87
SP-75	29.67											24.82	4.85															25.24	4.43			26.56	3.11	25.32	4.35		
SP-76	31.22	24.46	6.76	26.30	4.92			25.67	5.55			26.25	4.97	26.84	4.38			27.74	3.48	25.80	5.42							26.70	4.52			27.02	4.20	25.53	5.69		
SP-77	37.38	28.55	8.83	28.40	8.98			27.69	9.69			28.08	9.30	29.00	8.38					27.41	9.97							28.80	8.58			29.24	8.14	27.11	10.27		
SP-77D	37.32											27.93	9.39															28.80	8.52			29.19	8.13	27.04	10.28		
SP-78	**34.00**											27.30	6.70															28.18	5.82			28.48	5.52	26.38	7.62		
SP-79	34.77	26.84	7.93	26.66	8.11			25.93	8.84			26.28	8.49	27.26	7.51	27.28	7.49											27.44	7.33			27.44	7.33	25.35	9.42		
SP-80	**32.00**											25.72	6.28															26.51	5.49			26.77	5.23	24.70	7.30		
SP-81	24.62											20.78	3.84															20.97	3.65			21.30	3.32	21.50	3.12	20.93	3.69
SP-82	26.46											23.38	3.08			23.62	23.38	23.78	2.68	23.07	3.39							23.48	2.98			23.81	2.65	22.92	3.54		
SP-82M	26.46											23.44	3.02															23.55	2.91			23.86	2.60	22.99	3.47		
SP-83	25.15											22.28	2.87															22.39	2.76			22.69	2.46	21.88	3.27		
SP-84	21.88											19.24	2.64															NA	NA			20.07	1.81	19.25	2.63		
SP-85	25.85											24.21	1.64															23.93	1.92			24.45	1.40	23.83	2.02		
SP-86	18.91	18.05	0.86	18.00	0.91			17.66	1.25			18.03	0.88	17.90	1.01			18.11	0.80	17.83	1.08							17.53	1.38			18.22	0.69	17.80	1.11		
SP-87	7.37											6.91	0.46															6.56	0.81			7.02	0.35	6.89	0.48		
SP-88	31.94											26.95	4.99															27.35	4.59			27.71	4.23	26.14	5.80		
SP-89	22.12	15.04	7.08	14.86	7.26			14.10	8.02			14.91	7.21							13.95	8.17							NA	NA			15.67	6.45	13.55	8.57		
SP-90	24.56											22.65	1.91															21.90	2.66			22.21	2.35	21.52	3.04	21.91	2.65
SP-91	18.17																											16.48	1.69			16.91	1.26	16.60	1.57		
SP-97	**10.00**																			5.98	4.02							6.38	3.62			6.52	3.48	5.50	4.50		
SP-98	**14.00**																			13.46	0.54							13.95	0.05^			14.02	-0.02	13.00	1.00		

Bold Values- Well casing was not surveyed and elevation values are estimated. Therefore, water level elevations are estimated.
*Casing elevation derived by measuring the length between top of piezometer and top of ground surface, and adjusting for difference using known elevation of casing of ML-1 (90), ML-2 (120), ML-3 (120), ML-5 (120).
**Data collected on October 6, 2015
NA - Data not available due to possible field error
NM - Not Measured
^Values not included in data set complied to generate groundwater elevation contour lines

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Groundwater Sampling Laboratory Analytical Results
TestAmerica Laboratories, Inc., EPA Modified E537 (PFAS), EPA Method 8270D SIM (1,4 Dioxane)
PFAS (ng/L), 1,4 Dioxane (ug/L)

Location	Depth	Date Collected	PFOA	PFOS	Combined PFOA & PFOS	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFPeA	1,4-Dioxane
ML-1_40	39-40	11/21/2019	**5.4**	**2.24**	**7.64**	**1.45 J**	**1.69 J**	<1.79	**1.25 J**	**1.10 J**	**3.19**	**0.57 J**	1.79 U	<0.20
ML-1_80	79-80	11/21/2019	**3.74**	**1.50 J**	**5.24**	1.72 U	**1.50 J**	<1.72	**1.14 J**	**1.30 J**	**1.71 J**	<1.72	1.72 U	<0.20
ML-5_60	59-60	11/21/2019	**4.54**	**2.5**	**7.04**	**1.56 J**	**1.95**	<1.78	**1.40 J**	**2**	**2.87**	**0.30 J**	2.24 U	<0.20
ML-5_120	119-120	11/21/2019	**2.55**	**3.08**	**5.63**	**0.66 J**	**1.74 J**	<1.77	**1.04 J**	**1.47 J**	**1.93**	**0.58 J**	2.04 U	**0.64**
SP-1	80.88-81.88	11/22/2019	**2.87**	**1.83**	**4.7**	**0.48 J**	1.79 U	<1.79	**0.83 J**	**0.76 J**	**1.41 J**	**0.47 J**	**1.59 J**	<0.20
SP-5A	120	11/22/2019	**6.34**	<1.75	**6.34**	**0.44 J**	1.75 U	<1.75	**0.80 J**	**0.97 J**	**1.01 J**	<1.75	**0.97 J**	<0.20
SP-18S	28.62-29.62	11/26/2019	**3.53**	**7.41**	**10.94**	1.90 U	2.84 U	<1.90	**1.77 J**	**2.5**	**1.21 J**	1.90 U	1.90 U	<0.20
SP-18D	77-78	11/26/2019	<1.79	<1.79	<3.58	<1.79	1.79 U	<1.79	<1.79	<1.79	<1.79	<1.79	<1.79	<0.20
SP-22S	25-30	11/26/2019	**7.62**	**8.7**	**16.32**	3.09 U	5.98 U	<1.83	**3.36**	**4.32**	**3.29**	1.83 U	4.02 U	<0.20
SP-22P	75-80	11/26/2019	**101**	<1.81	**101**	<1.81	9.05 U	<1.81	**2.69**	<1.81	**1.47 J**	1.81 U	1.81 U	**6.5**
SP-23P	85-90	11/21/2019	<1.67	**0.54 J**	**0.54**	<1.67	**5.2**	<1.67	<1.67	**0.68 J**	<1.67	<1.67	1.67 U	**8.4**
SP-30	28.3-29.3	11/26/2019	**2.55**	**3.54**	**6.09**	1.93 U	1.93 U	<1.93	**1.21 J**	**2.35**	**1.41 J**	<1.93	1.93 U	<0.20
SP-32	28.59-29.59	11/26/2019	**16.5**	**7.16**	**23.66**	**5.92**	7.78 U	<1.90	**9.89**	**4.47**	**19.6**	<1.90 U	**13.5**	**0.09 J**
SP-44	66.15-67.15	11/21/2019	**3.61**	**4.63**	**8.24**	**1.16 J**	**2.02**	<1.61	**1.22 J**	**2.1**	**2.73**	**0.24 J**	2.28 U	**0.14 J**
SP-48P	74.12-75.12	11/21/2019	**2.98**	**2.76**	**5.74**	**0.50 J**	**1.71 J**	<1.80	**1.11 J**	**1.03 J**	**1.23 J**	**0.52 J**	1.80 U	<0.20
SP-48	121.13-122.13	11/21/2019	**2.02**	**2.61**	**4.63**	**0.84 J**	**9.26**	<1.78	**1.36 J**	**1.22 J**	**1.35 J**	**0.43 J**	1.78 U	**7.4**
SP-50M	85.51-86.51	11/22/2019	**91.1**	<1.77	**91.1**	<1.77	4.11 U	<1.77	**3.48**	<1.77	**2.64**	<1.77	**2.21**	**0.18 J**
SP-52	74-75	11/22/2019	<1.81	<1.81	<3.62	<1.81	1.81 U	<1.81	<1.81	<1.81	<1.81	<1.81	<1.81	<0.20
SP-53	39.8-40.8	11/22/2019	**1.23 J**	**7.5**	**8.73**	**0.59 J**	1.84 U	<1.80	<1.80	**1.26 J**	**1.60 J**	**0.34 J**	**2.43**	<0.20
SP-62	39.98-40.98	11/26/2019	**4.96**	**14.1**	**19.06**	1.79 U	3.25 U	**0.93 J**	**1.06 J**	**2.39**	**3.23**	1.79 U	2.96 U	<0.20
SP-63C	36.86-37.86	11/22/2019	**2.1**	**1.64 J**	**3.74**	**5.62**	1.79 U	<1.79	<1.79	**1.58 J**	**1.06 J**	**0.32 J**	**1.17 J**	<0.20
SP-74	25.42-26.42	11/21/2019	**0.75 J**	<1.68	**0.75 J**	<1.68	<1.68	<1.68	<1.68	<1.68	<1.68	<1.68	<1.68	<0.20
SP-74D	98.64-99.64	11/21/2019	<1.72	<1.72	<3.44	<1.72	<1.72	<1.72	<1.72	<1.72	<1.72	<1.72	<1.72	**0.29**
SP-81	69.15-70.15	11/21/2019	<1.62	<1.62	<3.24	<1.62	<1.62	<1.62	<1.62	<1.62	<1.62	<1.62	<1.62	**0.69**
SP-90	38.73-39.73	11/21/2019	**16.5**	**5.96**	**22.46**	**32.8**	**11.1**	<1.59	**6.34**	**1.63**	**36.7**	**0.94 J**	**33.9**	**0.22**
USEPA Health Advisory Level[1]			**70**	**70**	**70**	nv	nv	nv	nv	nv	nv	nv	nv	nv
Proposed NYSDOH Advisory Level[2]			**10**	**10**	**10**	nv	nv	nv	nv	nv	nv	nv	nv	**1**

[1]EPA 2018 Edition of the Drinking Water Standards and Health Advisories (ng/L)

[2]The NYS Department of Health proposed a drinking water standard of 10 ng/L for PFOA and PFOS and 1.0 ug/L for 1,4 dioxane; this standard is not promulgated

Blue shaded cells indicates value above Proposed NYSDOH Advisory Level for PFOA and PFOS
Green shaded cells indicates value above USEPA Health Advisory Level
Grey shaded cells indicates value above Proposed NYSDOH Advisory Level for 1,4 dioxane
U - The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.
J - The result is an estimated quantity

nv - Analyzed chemicals with no established value

PFBS - Perfluorobutanesulfonic Acid
PFBA - Perfluorobutyric Acid
PFDA Perfluorodecanoic Acid
PFHpS - Perfluoroheptane Sulfonate
PFHpA - Perfluoroheptanoic Acid
PFHxS - Perfluorohexanesulfonic Acid
PFHxA - Perfluorohexanoic Acid
PFNA - Perfluorononanoic Acid
PFOS - Perfluorooctanesulfonic Acid
PFOA - Perfluorooctanoic Acid
PFPeA - Perfluoropentanoic Acid

The chemicals listed below were reported below the laboratory reporting limit (LRL):

2-(N-methyl perfluorooctanesulfonamido) acetic acid
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine
Perfluorodecane Sulfonic Acid
Perfluorododecanoic Acid (PFDoA)
Perfluoroheptane Sulfonate (PFHpS)
Perfluorooctane Sulfonamide (FOSA)
Perfluorotetradecanoic Acid (PFTeA)
Perfluorotridecanoic Acid (PFTriA)
Perfluoroundecanoic Acid (PFUnA)
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)
SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE (6:2)

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results - November 2019
EAR Field Screening

Location	Depth	Date Collected	Conductivity (uS)	Dissolved Oxygen (mg/L)	ORP (Oxidation Reduction Potential) (mV)	pH	Temperature °C
ML-1_40	39-40	11/21/2019	**216**	**4.37**	**192.4**	**5.47**	**12.5**
ML-1_80	79-80	11/21/2019	**115**	**5.26**	**161.4**	**5.71**	**12.3**
ML-5_60	59-60	11/21/2019	**260**	**3.59**	**250.2**	**5.03**	**12.4**
ML-5_120	119-120	11/21/2019	**199**	**3.20**	**192.9**	**5.40**	**12.3**
SP-1	35-40	11/22/2019	**278**	**1.63**	**233.3**	**5.65**	**12.1**
SP-5A	120.6-121.6	11/22/2019	**213**	**1.06**	**220.0**	**5.92**	**12.0**
SP-18S	28.62-29.62	11/26/2019	**157**	**1.02**	**142.1**	**5.88**	**14.0**
SP-18D	77-78	11/26/2019	**162**	**1.29**	**128.7**	**5.65**	**12.8**
SP-22S	25-30	11/26/2019	**249**	**1.29**	**120.9**	**6.25**	**12.6**
SP-22P	75-80	11/26/2019	**159**	**1.44**	**289.5**	**5.61**	**12.5**
SP-23P	85-90	11/21/2019	**538**	**0.70**	**193.0**	**5.43**	**13.5**
SP-30	28.3-29.3	11/26/2019	**200**	**0.98**	**133.3**	**6.24**	**13.3**
SP-32	28.59-29.59	11/26/2019	**254**	**1.75**	**120.2**	**5.30**	**14.4**
SP-44	66.15-67.15	11/21/2019	**227**	**2.90**	**167.2**	**5.21**	**12.6**
SP-48P	74.12-75.12	11/21/2019	**148**	**4.08**	**171.4**	**5.24**	**12.6**
SP-48	121.13-122.13	11/21/2019	**542**	**0.88**	**194.1**	**5.46**	**13.5**
SP-50M	85.51-86.51	11/22/2019	**217**	**1.29**	**201.9**	**6.54**	**11.4**
SP-52	74-75	11/22/2019	**215**	**0.84**	**222.0**	**6.32**	**11.4**
SP-53	39.8-40.8	11/22/2019	**563**	**1.82**	**237.3**	**5.78**	**12.0**
SP-62	39.98-40.98	11/26/2019	**647**	**0.61**	**196.8**	**6.39**	**13.6**
SP-63C	36.86-37.86	11/22/2019	**453**	**1.89**	**235.8**	**5.67**	**12.5**
SP-74	25.42-26.42	11/21/2019	**554**	**0.66**	**204.0**	**5.72**	**13.5**
SP-74D	98.64-99.64	11/21/2019	**551**	**0.77**	**195.1**	**5.86**	**13.8**
SP-81	69.15-70.15	11/21/2019	**236**	**0.08**	**177.6**	**5.84**	**12.9**
SP-90	38.73-39.73	11/21/2019	**536**	**1.03**	**202.0**	**5.76**	**13.5**

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Blind Duplicates Results - Emerging Contaminants
TestAmerica Laboratories, Inc.
PFAS (ng/L), 1,4 Dioxane (ug/L)

	Well	Date Collected	PFOS	PFOA	N-MeFOSAA	N-EtFOSAA	PFBS	PFBA	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNA	FOSA	PFPeA	PFTA/PFTeDA	PFTriA/PFTrDA	PFUA/PFUdA	8:2 FTS	6:2 FTS	1,4-Dioxane
Original Sample	SP-5	11/22/2019	<1.75	6.34	<17.5	<17.5	0.44 J	1.75 U	<1.75	<1.75	<1.75	<1.75	0.8 J	0.97 J	1.01 J	<1.75	<8.76	0.97 J	<1.75	<1.75	<1.75	<17.5	<17.5	<0.20
Blind Duplicate	SP-A	11/22/2019	<1.70	5.61	<17	<17	<1.70	1.70 U	<1.70	<1.70	<1.70	<1.70	<1.70	1.03 J	0.79 J	<1.70	<8.50	0.93 J	<1.70	<1.70	<1.70	<17	<17	<0.20
Relative Percent Difference			0 %	**12.2%**	0 %	0 %	n/a	0 %	0 %	0 %	0 %	0 %	n/a	n/a	n/a	0 %	0 %	n/a	0 %	0 %	0 %	0 %	0 %	0 %
Original Sample	SP-48P	11/21/2019	2.76	2.98	<18	<18	0.5 J	1.71 J	<1.80	<1.80	<1.80	<1.80	1.11 J	1.03 J	1.23 J	0.52 J	<8.99	1.80 U	<1.80	<1.80	<1.80	<18	<18	<0.20
Blind Duplicate	SP-B	11/21/2019	2.98	2.64	<17.5	<17.5	0.5 J	1.53 J	<1.75	<1.75	<1.75	<1.75	1.2 J	1.07 J	1.21 J	0.52 J	<8.75	1.75 U	<1.75	<1.75	<1.75	<17.5	<17.5	<0.20
Relative Percent Difference			**7.7%**	**12.1%**	0 %	0 %	n/a	n/a	0 %	0 %	0 %	0 %	n/a	n/a	n/a	n/a	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

J - Value indicates estimated values
U - The analyte was analyzed for, but was not detected above the level of the reported quantitation limit.
Values with qualifiers are not utilized to calculate relative percent difference.

PFOS - Perfluorooctanesulfonic Acid
PFOA - Perfluorooctanoic Acid
N-MeFOSAA - N-methyl perfluorooctanesulfonamidoacetic aci
N-EtFOSAA - N-ethyl perfluorooctanesulfonamidoacetic acid
PFBS - Perfluorobutanesulfonic Acid
PFBA - Perfluorobutyric Acid
PFDS - Perfluorodecanesulfonic acid
PFHpS - Perfluoroheptane Sulfonate
PFHpA - Perfluoroheptanoic Acid
PFHxS - Perfluorohexanesulfonic Acid
PFHxA - Perfluorohexanoic Acid
PFNA - Perfluorononanoic Acid
FOSA - Perfluorooctane Sulfonamide
PFDA - Perfluorodecanoic Acid
PFDoA - Perfluorododecanoic Acid
PFPeA - Perfluoropentanoic Acid
PFTA/PFTeDA - Perfluorotetradecanoic Acid
PFTriA/PFTrDA - Perfluorotridecanoic Acid
PFUA/PFUdA - Perfluoroundecanoic Acid
8:2 FTS - SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE
6:2 FTS - SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE

Table 5

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Suffolk County Department of Health and EAR Well Identification

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SCDHS Well ID	EAR Well ID	Notes
SP-1 (70-75)	SP-1	
SP-1M (25-35)	SP-1M	
SP-5M (25-35)	SP-5M	SP-5A was labeled as SP-5M and SP-5M was labeled as SP-5A during the July 2014 and January 2017 sampling event. SP-5A depth is approximatley 120-121 ft.bg.
	SP-5B	No SCDHS well in historical tables with corresponding well depth.
	SP-5A	SP-5A was labeled as SP-5M and SP-5M was labeled as SP-5A during the July 2014 and January 2017 sampling event. No SCDHS Well in historical tables with corresponding well depth of SP-5M.
SP-16 (25-30)	SP-16	
SP-16P	SP-16P	No SCDHS Well in historical tables with corresponding well depth.
SP-18 (25-30)	SP-18	
SP-18 (75-80)	SP-18D	
SP-19 (25-30)	SP-19	
SP-20 (25-30)	SP-20	
SP-21 (25-30)	SP-21	
SP-22 (25-30)	SP-22A	Labeled SP-22S during October 2015 GWS event.
SP-22 (75-80)	SP-22	Labeled SP-22P during October 2015 GWS event.
SP-23 (25-30)	SP-23	
SP-24 (75-80)	SP-24	
SP-25 (20-25)	SP-25	
SP-26P (75-80)	SP-26	
SP-27 (65-70)	SP-27	
SP-28 (25-30)	SP-28	
SP-31 (25-30)	SP-31	
SP-32 (25-30)	SP-32	
SP-34P (70-75)	SP-34P	
SP-34D (110-115)	SP-34D	
SP-35 (25-30)	SP-35	
SP-35P (75-80)	SP-35P	
SP-36 (25-30)	SP-36	
SP-37 (25-30)	SP-37	
SP-39 (25-30)	SP-39	
SP-40 (15-20)	SP-40	
SP-41 (25-30)	SP-41	
SP-42 (25-30)	SP-42	
SP-43 (25-30)	SP-43	
SP-44P (65-70)	SP-44	
SP-45 (25-30)	SP-45	
SP-46 (25-30)	SP-46	
SP-47 (25-30)	SP-47	
SP-48P (70-75)	SP-48P	
SP-48 (110-115)	SP-48	Well depth of SP-48P was 123 feet BGS during sampling event.
SP-50MA (25-35)	SP-50A	
SP-50M (75-80)	SP-50	Well depth of SP-50 was 87 feet BGS during sampling event.
SP-52MA (21-31)	SP-52A	Well depth of SP-52A was 36 feet BGS during sampling event.
SP-52M (65-70)	SP-52 (M)	Well depth of SP-52 was 75 feet BGS during sampling event.
SP-53 (40-45)	SP-53	
SP-54 (40-45)	SP-54 (2in)	
SP-54 (70-75)	SP-54 (.75in)	
SP-55 (40-45)	SP-55	
SP-56 (70-75)	SP-56	
SP-57 (40-45)	SP-57	
SP-61 (35-40)	SP-61	
SP-62 (25-30)	SP-62	
SP-63 (40-45)	SP-63	
SP-63A (40-45)	SP-63A	
SP-63B (40-45)	SP-63B	
SP-63C (40-45)	SP-63C	
SP-66D (100-105)	SP-66D	
SP-68 (25-30)	SP-68	
SP-69 (25-30)	SP-69	
SP-69D (90-95)	SP-69D	

Table 5

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Suffolk County Department of Health and EAR Well Identification

SCDHS Well ID	EAR Well ID	Notes
SP-70 (25-30)	SP-70	
SP-72D (97-102)	SP-72D	
SP-73 (25-30)	SP-73	
SP-74 (25-30)	SP-74	
SP-74D (100-105)	SP-75D	
SP-75 (25-30)	SP-75	
SP-76 (25-30)	SP-76	
SP-77 (25-30)	SP-77	
SP-77D (100-105)	SP-77D	
SP-78 (25-30)	SP-78	
SP-79 (25-30)	SP-79	
SP-80 (25-30)	SP-80	
SP-81 (70-75)	SP-81	
SP-82 (25-30)	SP-82	
SP-82M (75-80)	SP-82M	Well depth of SP-82M was 85 feet BGS during sampling event.
SP-83 (25-30)	SP-83	
SP-84 (25-30)	SP-84	
SP-85 (25-30)	SP-85	
SP-86 (15-20)	SP-86	
SP-87 (5-10)	SP-87	
SP-88 (60-65)	SP-88	
SP-89 (30-35)	SP-89	
SP-90 (40-45)	SP-90	
SP-91 (30-35)	SP-91	

FIGURES

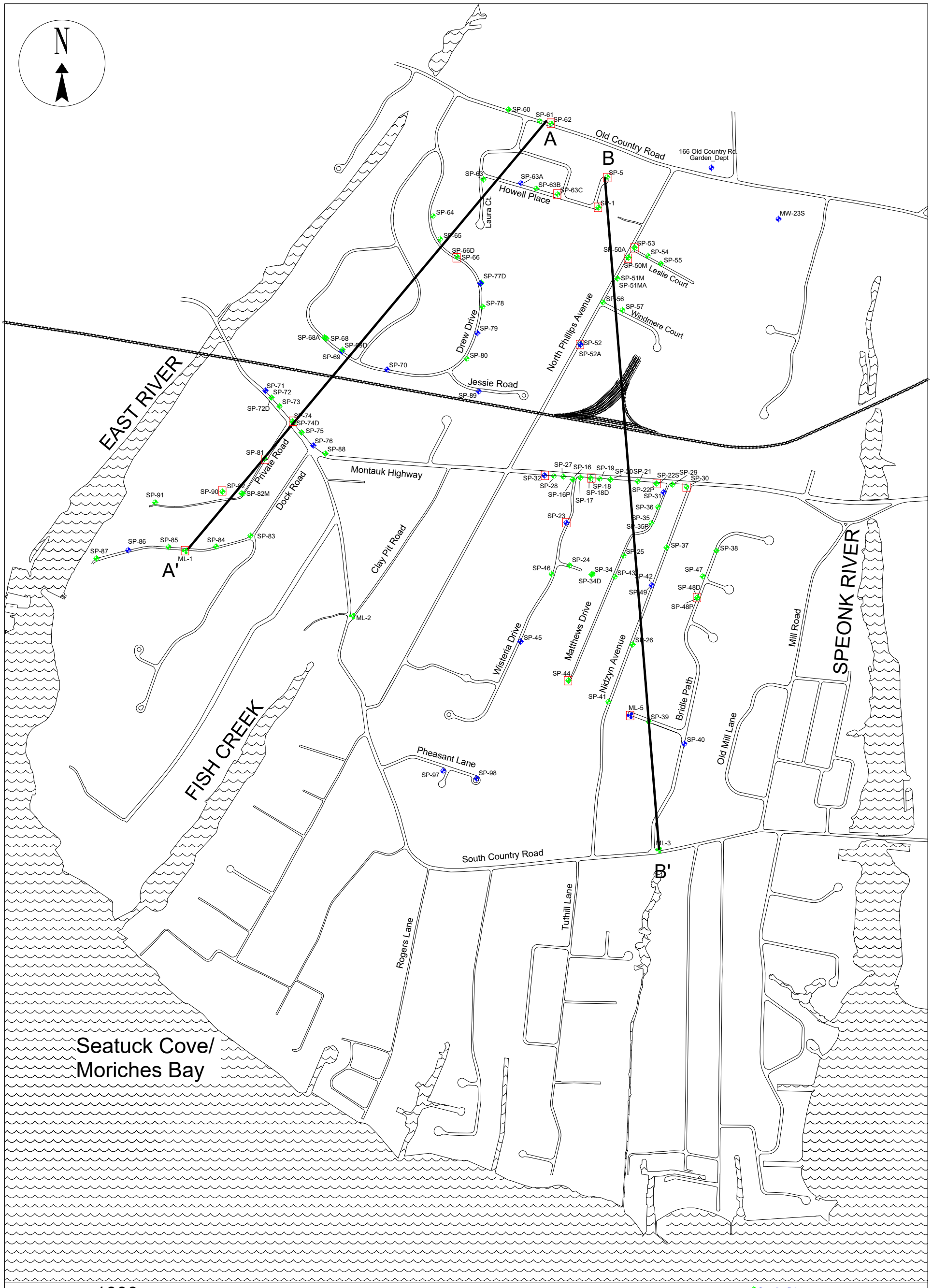
MODIFIED FROM USGS EASTPORT, NY 7.5' QUADRANGLE, 2013

NOT TO SCALE

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS
225 Atlantic Avenue
Patchogue, New York 11772
Tel (631) 447-6400
Fax (631) 447-6497
Email Info@Enviro-Asmnt.com
www.Enviro-Asmnt.com

FIGURE 1 - SITE LOCATION MAP

Speonk Solvent Plume
North Phillips Avenue
NYSDEC Site # 152185



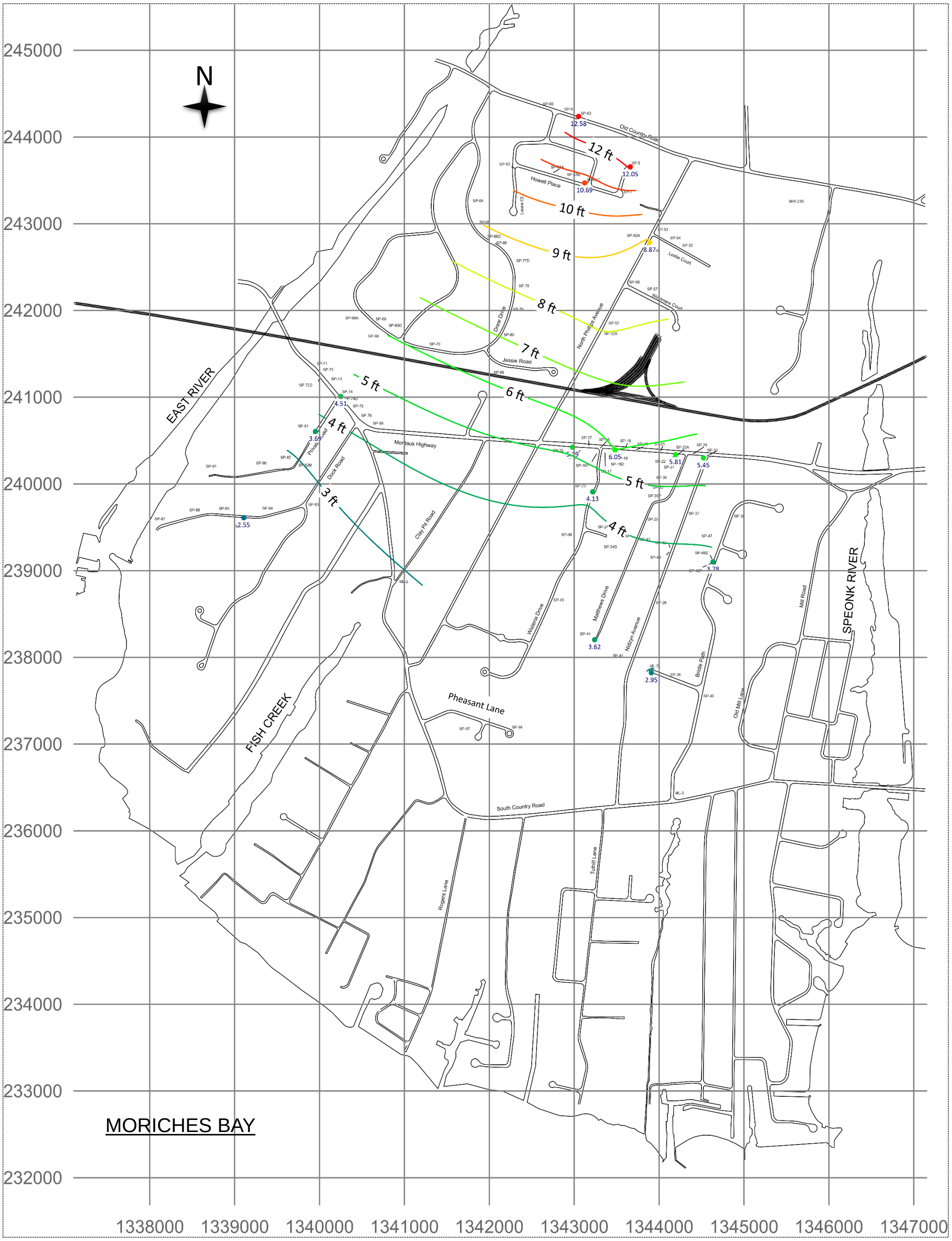
ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 2. Site Map with Well Locations

Speonk Solvent Plume
North Phillips Avenue
Speonk, NY
Site No. 152185

Figure 3

Speonk Solvent Plume
NYSDEC Site No. 152185
Groundwater Elevation Contour Map
Shallow 0-40 Feet Deep
Calculated from November 2019 Elevation Data

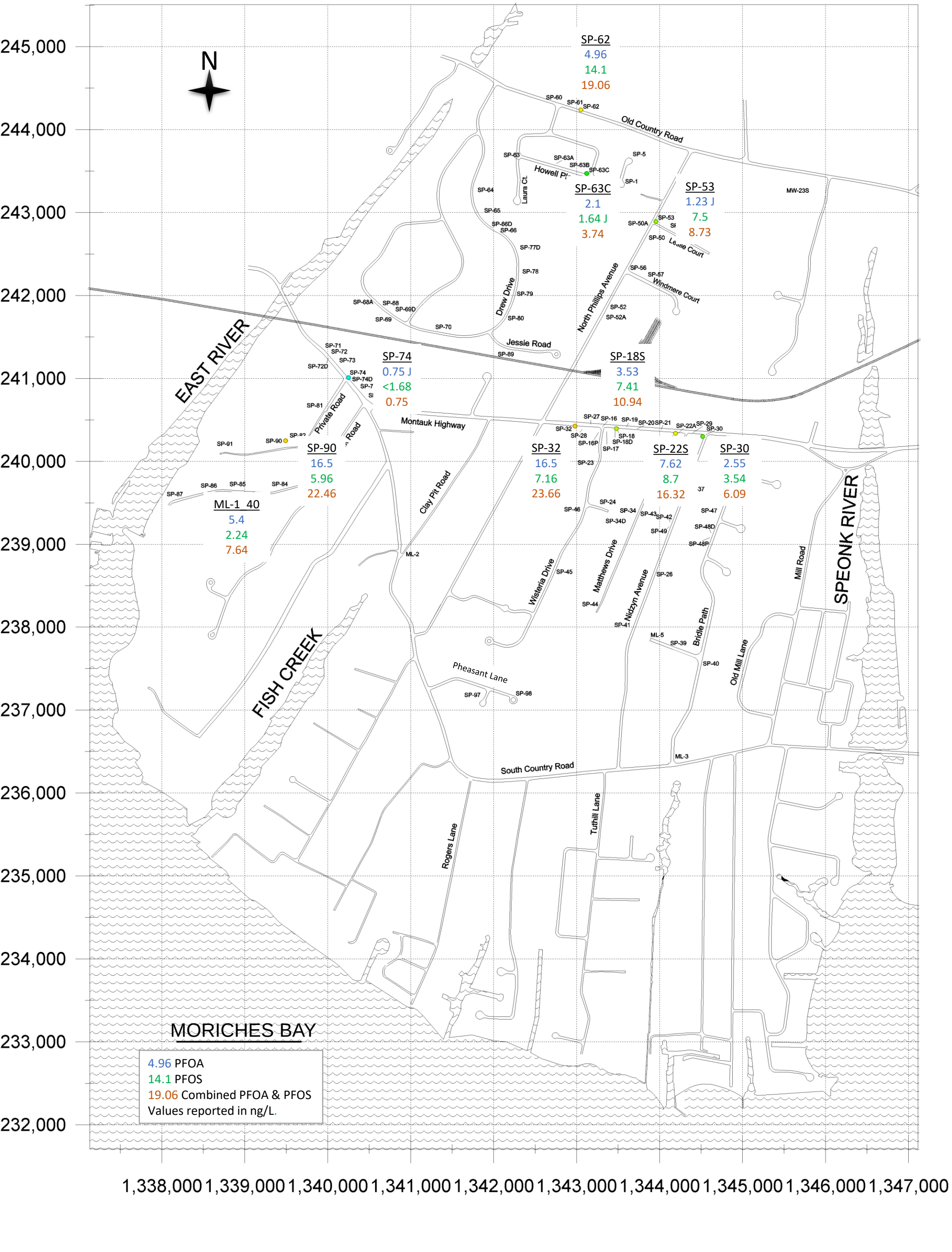


Groundwater Elevation

0 ft | 2 ft | 3 ft | 5 ft | 6 ft | 8 ft | 9 ft | 11 ft | 12 ft

Figure 4

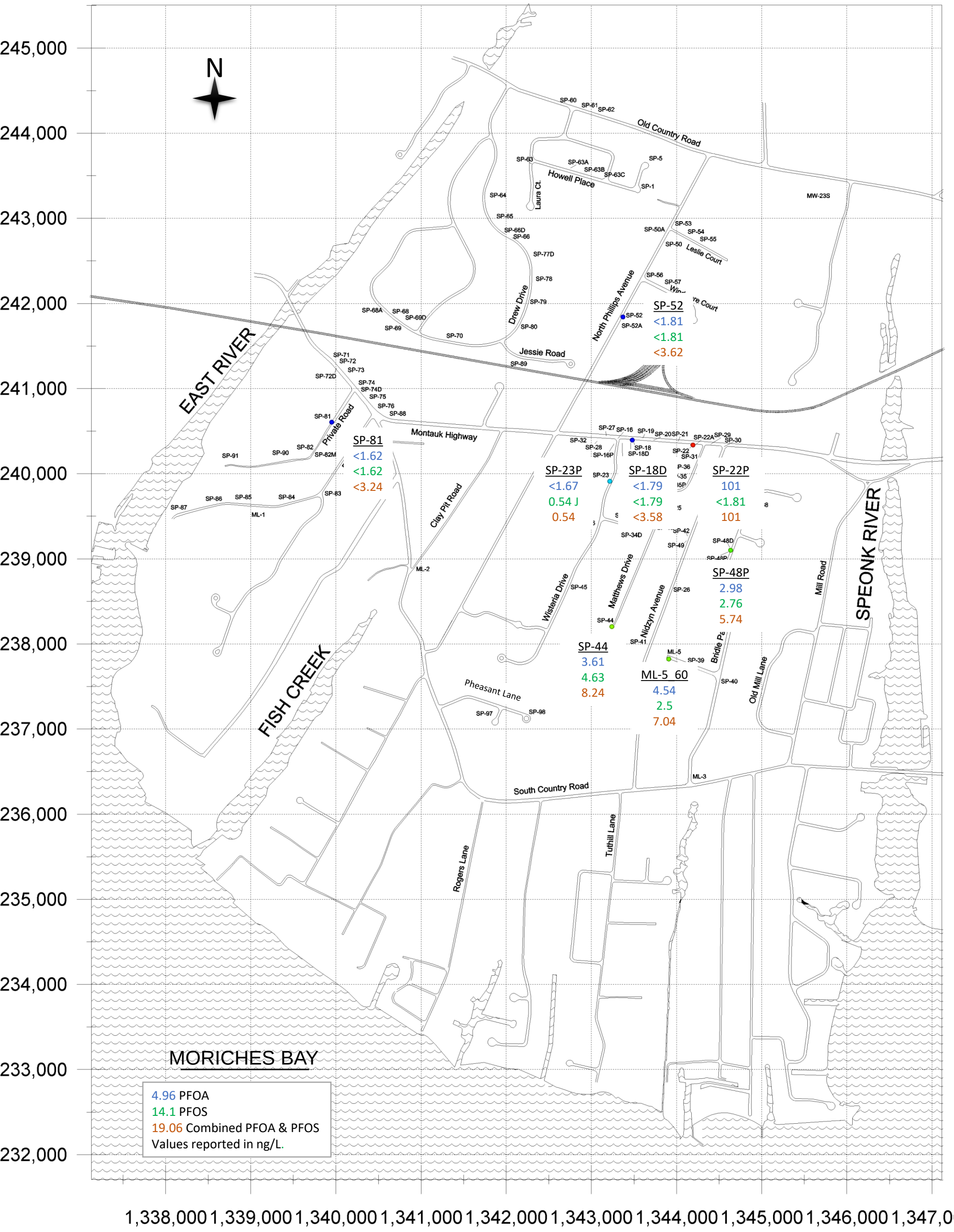
Speonk Solvent Plume
NYSDEC Site No. 152185
Combined PFOA and PFOS
Shallow 0-40 Feet Deep
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 5

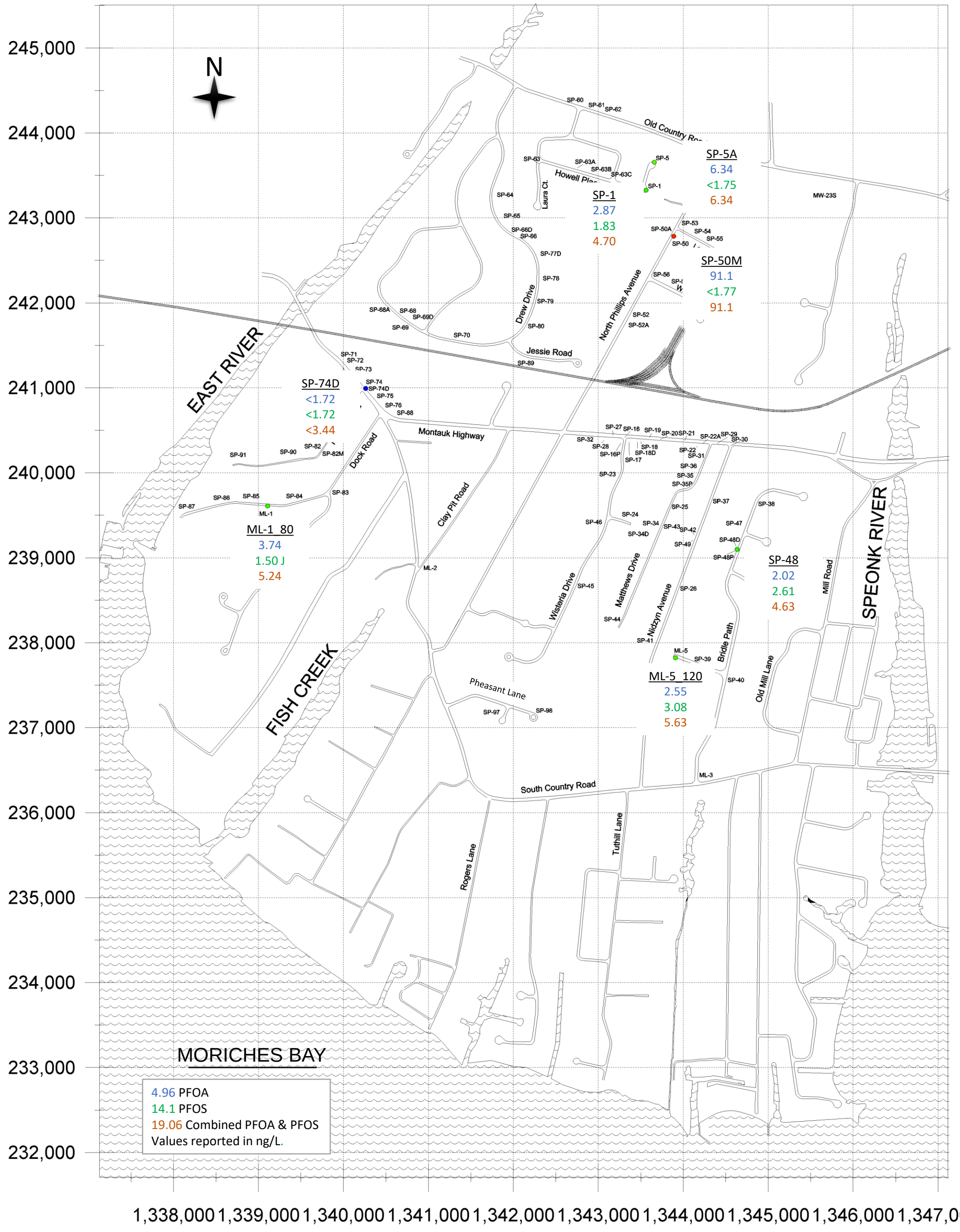
Speonk Solvent Plume
NYSDEC Site No. 152185
Combined PFOA and PFOS
Intermediate 40-80 Feet Deep
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 6

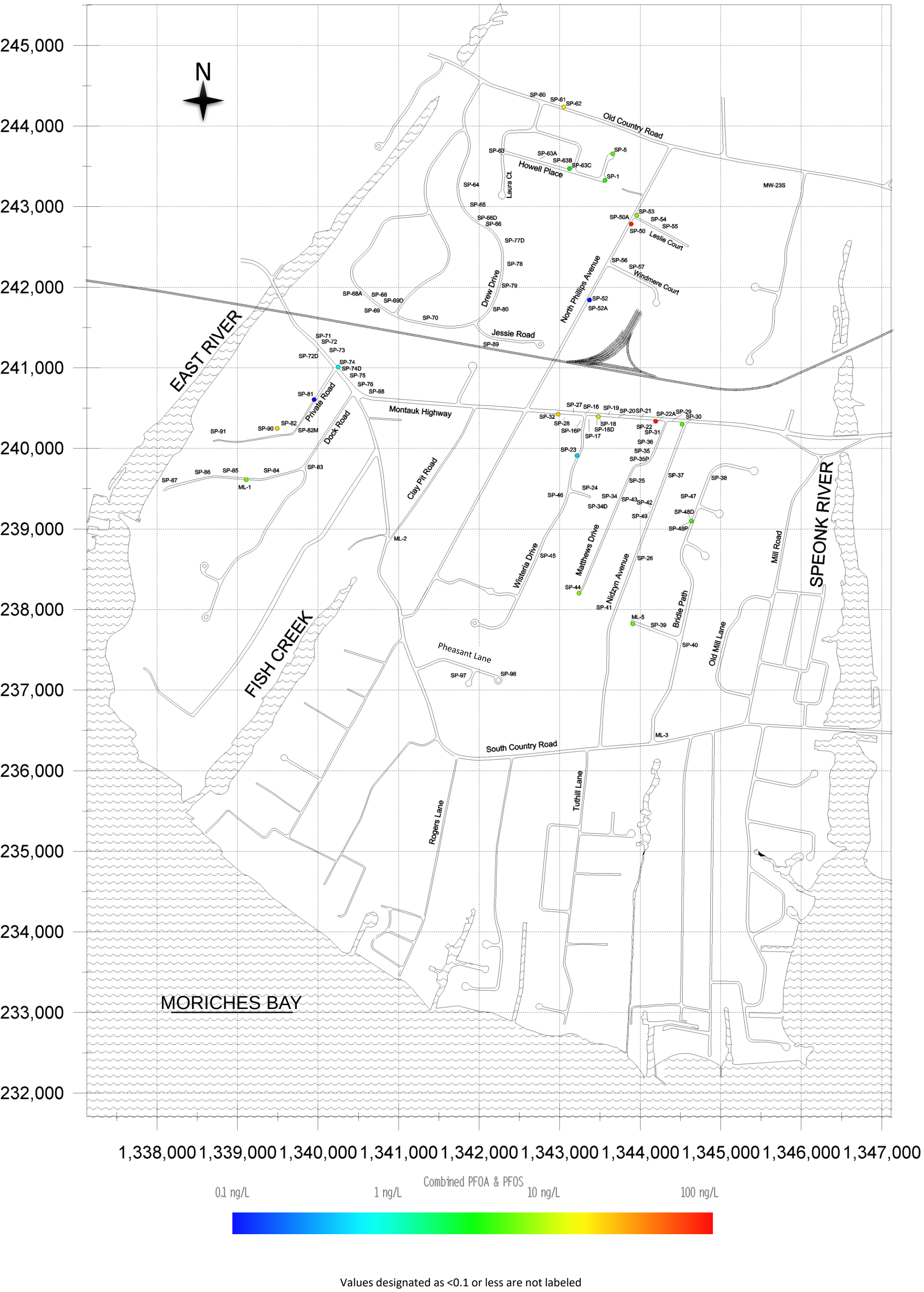
Speonk Solvent Plume
NYSDEC Site No. 152185
Combined PFOA and PFOS
80 Feet to Maximum Depth
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 7

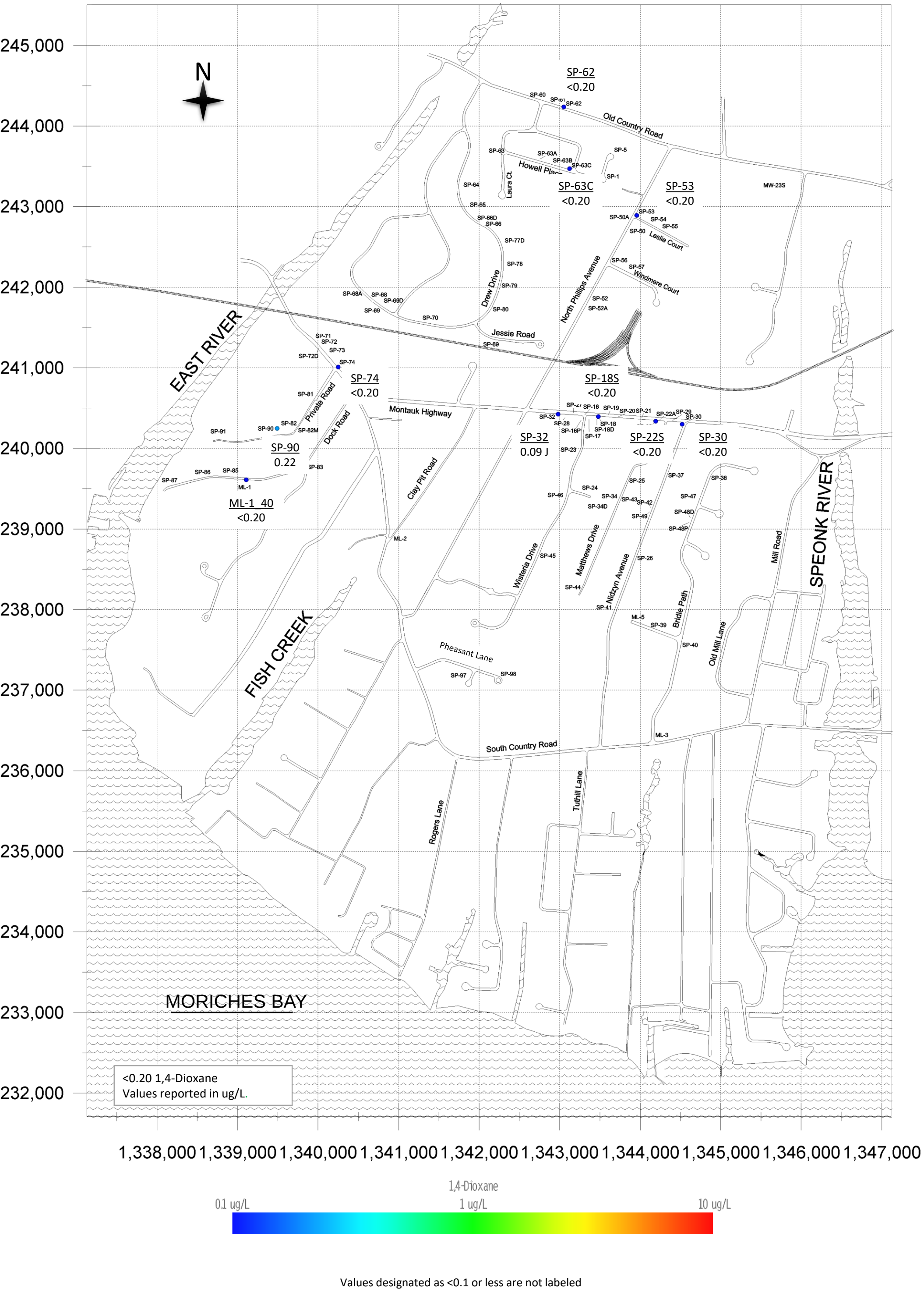
Speonk Solvent Plume
NYSDEC Site No. 152185
Combined PFOA and PFOS
All Depth Intervals
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 8

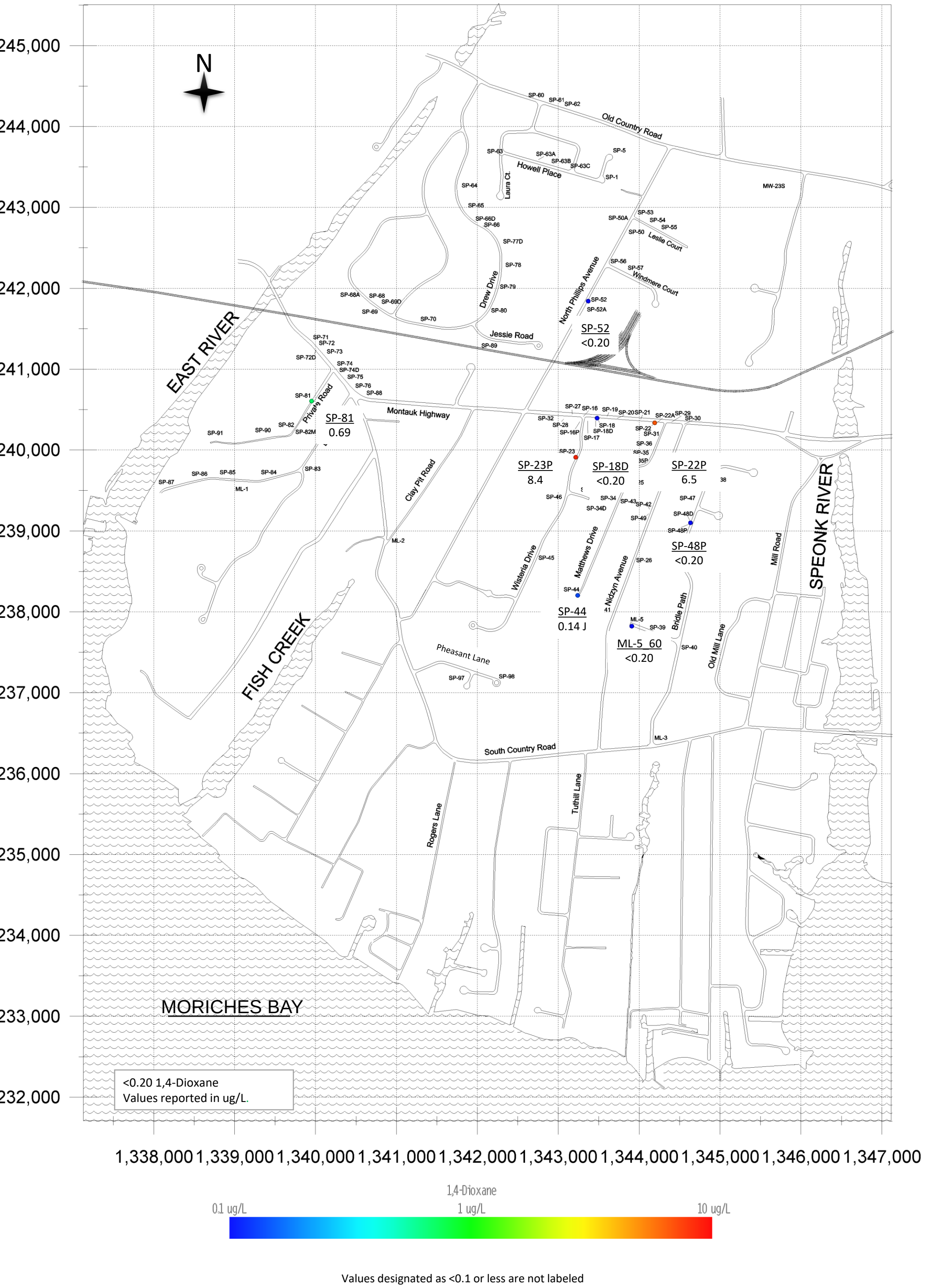
Speonk Solvent Plume
NYSDEC Site No. 152185
1,4-Dioxane
Shallow 0-40 Feet Deep
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 9

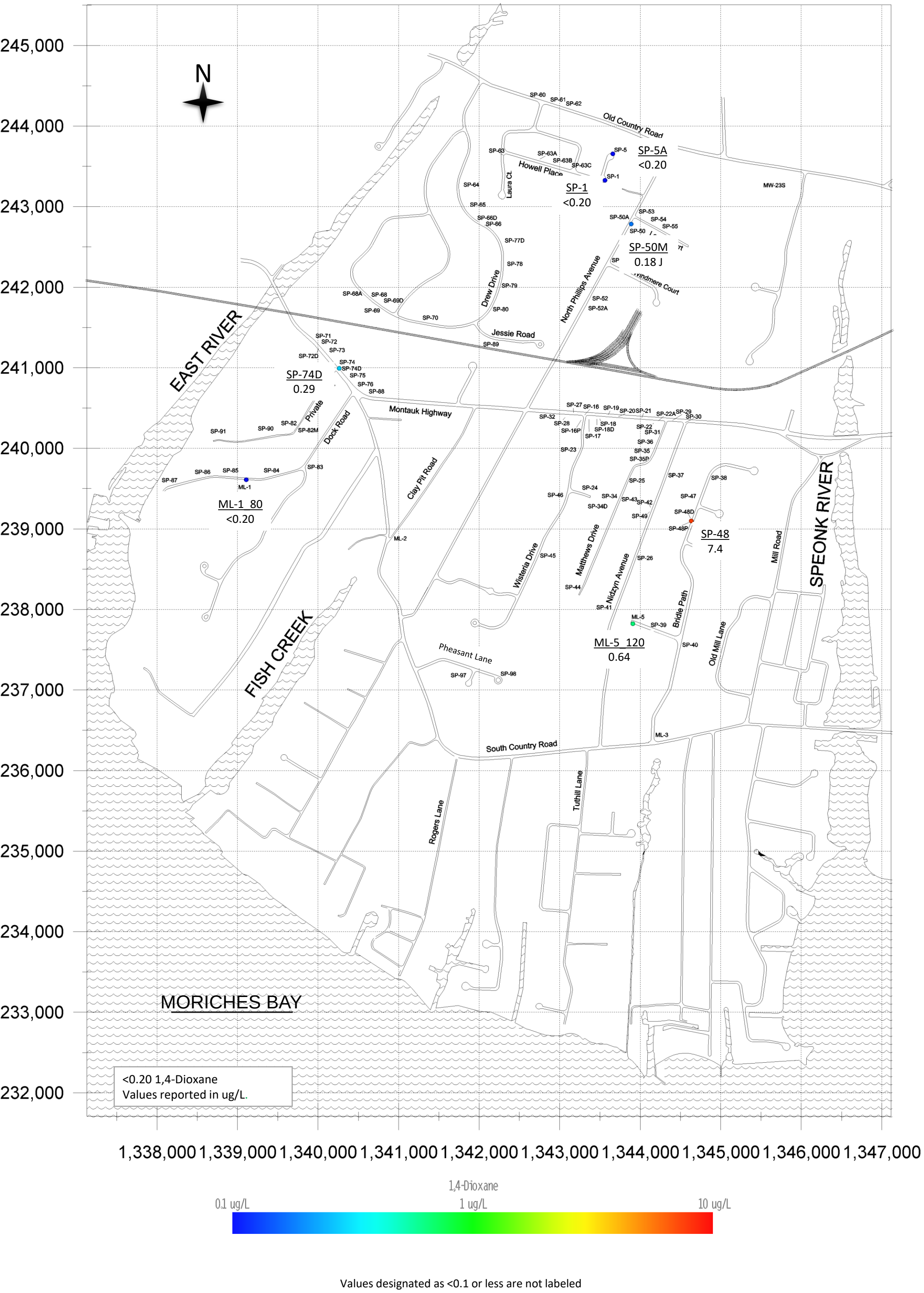
Speonk Solvent Plume
NYSDEC Site No. 152185
1,4-Dioxane
Intermediate 40-80 Feet Deep
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 10

Speonk Solvent Plume
NYSDEC Site No. 152185
1,4-Dioxane
80 Feet to Maximum Depth
November 2019 (Maximum Concentration Values)



Values designated as <0.1 or less are not labeled

Figure 11

Speonk Solvent Plume
NYSDEC Site No. 152185
1,4-Dioxane
All Depth Intervals
November 2019 (Maximum Concentration Values)

1,4-Dioxane

0.1 ug/L — 1 ug/L — 10 ug/L

Values designated as <0.1 or less are not labeled

APPENDIX A – DATA USABILITY SUMMARY REPORTS

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 200-51645-1
Laboratory: Eurofins Test America, Burlington, Vermont
Site: DEC-Speonk185, Speonk, New York
Date: February 3, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	ML-1_40	200-51645-1	Water
2	ML-1_80	200-51645-2	Water
3	ML-5_60	200-51645-3	Water
4	ML-5_120	200-51645-4	Water
5	SP-48P	200-51645-5	Water
5MS	SP-48PMS	200-51645-5MS	Water
5MSD	SP-48PMSD	200-51645-5MSD	Water
6	SP-48	200-51645-6	Water
7	SSP_FIELD BLANK_20191119	200-51645-7	Water
8	SSP_EQUIPMENT BLANK_20191119	200-51645-8	Water
9	SP-B	200-51645-9	Water

A Data Usability Summary Review was performed on the analytical data for seven water samples, one aqueous equipment blank sample, and one aqueous field blank sample collected on November 21, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the USEPA Method Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).

Specific method references are as follows:

Analysis	*Method References*
PFAS	USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the NYSDEC Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids, October 2019, and the USEPA Data Review and Validation Guidelines as follows:

- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, November 2018;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

PFAS

- Holding times and sample preservation
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Perfluorinated Alkyl Substances (PFAS)

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
200-150361/1-A	PFPeA	0.714	U	1, 2, 3, 4, 5, 6, 9

Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
SSP_EQUIPMENT BLANK_20191119	None - ND	-	-	-
SSP_FIELD BLANK_20191119	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD percent recoveries (%R) and/or RPDs outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS/MSD Sample	Compound	MS %R/MSD %R/RPD	Qualifier
5	PFOS	OK/OK/21	None for RPD Alone

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

PFAS				
Compound	SP-48P ng/L	SP-B ng/L	RPD	Qualifier
PFBA	1.71	1.53	11%	None
PFHxA	1.23	1.21	2%	
PFHpA	1.11	1.20	8%	
PFOA	2.98	2.64	12%	
PFNA	0.52	0.52	0%	
PFBS	0.50	0.50	0%	
PFHxS	1.03	1.07	4%	
PFOS	2.76	2.98	8%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: ML-1_40 Lab Sample ID: 200-51645-1

Matrix: Water Lab File ID: SC120719E009.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 09:04

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 279.5(mL) Date Analyzed: 12/08/2019 12:18

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.69	J	1.79	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.79 ~~1.71~~	~~J B~~ U	1.79	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	3.19		1.79	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.25	J	1.79	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	5.40		1.79	0.72
375-95-1	Perfluorononanoic acid (PFNA)	0.57	J	1.79	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.79	U	1.79	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.79	U	1.79	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.79	U	1.79	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.79	U	1.79	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.79	U	1.79	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.45	J	1.79	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.10	J	1.79	0.72
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.79	U	1.79	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.24		1.79	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.79	U	1.79	0.81
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.94	U	8.94	8.94
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.9	U	17.9	1.52
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.9	U	17.9	1.34
27619-97-2	6:2 FTS	17.9	U	17.9	4.92
39108-34-4	8:2 FTS	17.9	U	17.9	2.59

2

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: ML-1_80 Lab Sample ID: 200-51645-2

Matrix: Water Lab File ID: SC120719E010.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 09:33

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 290.2(mL) Date Analyzed: 12/08/2019 12:26

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.50	J	1.72	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.72 ~~0.98~~	~~J~~ 4	1.72	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	1.71	J	1.72	0.65
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.14	J	1.72	0.78
335-67-1	Perfluorooctanoic acid (PFOA)	3.74		1.72	0.70
375-95-1	Perfluorononanoic acid (PFNA)	1.72	U	1.72	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	1.72	U	1.72	0.66
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.72	U	1.72	0.67
307-55-1	Perfluorododecanoic acid (PFDoA)	1.72	U	1.72	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.72	U	1.72	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.72	U	1.72	0.79
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.72	U	1.72	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.30	J	1.72	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.72	U	1.72	0.82
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.50	J	1.72	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.72	U	1.72	0.78
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.61	U	8.61	8.61
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.2	U	17.2	1.46
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.2	U	17.2	1.29
27619-97-2	6:2 FTS	17.2	U	17.2	4.74
39108-34-4	8:2 FTS	17.2	U	17.2	2.50

MW 2/4/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1
SDG No.:
Client Sample ID: ML-5_60 Lab Sample ID: 200-51645-3
Matrix: Water Lab File ID: SC120719E011.d
Analysis Method: 537 (modified) Date Collected: 11/21/2019 10:24
Extraction Method: 3535 Date Extracted: 12/04/2019 14:13
Sample wt/vol: 281(mL) Date Analyzed: 12/08/2019 12:34
Con. Extract Vol.: 10(mL) Dilution Factor: 1
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.95		1.78	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.24	~~B~~ U	1.78	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	2.87		1.78	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.40	J	1.78	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	4.54		1.78	0.72
375-95-1	Perfluorononanoic acid (PFNA)	0.30	J	1.78	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.78	U	1.78	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.78	U	1.78	0.69
307-55-1	Perfluorododecanoic acid (PFDoA)	1.78	U	1.78	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.78	U	1.78	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.78	U	1.78	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.56	J	1.78	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00		1.78	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.78	U	1.78	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.50		1.78	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.78	U	1.78	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.90	U	8.90	8.90
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.8	U	17.8	1.51
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.8	U	17.8	1.33
27619-97-2	6:2 FTS	17.8	U	17.8	4.89
39108-34-4	8:2 FTS	17.8	U	17.8	2.58

NW 2/4/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

4

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: ML-5_120 Lab Sample ID: 200-51645-4

Matrix: Water Lab File ID: SC120719E012.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 11:11

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 282(mL) Date Analyzed: 12/08/2019 12:43

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.74	J	1.77	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.04	~~J~~ U	1.77	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	1.93		1.77	0.67
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.04	J	1.77	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	2.55		1.77	0.72
375-95-1	Perfluorononanoic acid (PFNA)	0.58	J	1.77	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.77	U	1.77	0.68
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.77	U	1.77	0.69
307-55-1	Perfluorododecanoic acid (PFDoA)	1.77	U	1.77	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.77	U	1.77	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.77	U	1.77	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.66	J	1.77	0.43
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.47	J	1.77	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.77	U	1.77	0.84
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.08		1.77	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.77	U	1.77	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.87	U	8.87	8.87
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.7	U	17.7	1.51
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.7	U	17.7	1.33
27619-97-2	6:2 FTS	17.7	U	17.7	4.88
39108-34-4	8:2 FTS	17.7	U	17.7	2.57

NW 2/4/20

5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: SP-48P Lab Sample ID: 200-51645-5

Matrix: Water Lab File ID: SC120719E013.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 12:40

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 278.2(mL) Date Analyzed: 12/08/2019 12:51

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.71	J	1.80	0.90
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.80 ~~1.32~~	~~J B~~ U	1.80	0.57
307-24-4	Perfluorohexanoic acid (PFHxA)	1.23	J	1.80	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.11	J	1.80	0.82
335-67-1	Perfluorooctanoic acid (PFOA)	2.98		1.80	0.73
375-95-1	Perfluorononanoic acid (PFNA)	0.52	J	1.80	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.80	U	1.80	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.80	U	1.80	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.80	U	1.80	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.80	U	1.80	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.80	U	1.80	0.83
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.50	J	1.80	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.03	J	1.80	0.72
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.80	U	1.80	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.76		1.80	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.80	U	1.80	0.81
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.99	U	8.99	8.99
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18.0	U	18.0	1.53
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18.0	U	18.0	1.35
27619-97-2	6:2 FTS	18.0	U	18.0	4.94
39108-34-4	8:2 FTS	18.0	U	18.0	2.61

NW 214120

6

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: SP-48 Lab Sample ID: 200-51645-6

Matrix: Water Lab File ID: SC120719E017.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 14:08

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 281.3(mL) Date Analyzed: 12/08/2019 13:24

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	9.26		1.78	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.78 ~~1.26~~	~~J B~~ U	1.78	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	1.35	J	1.78	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.36	J	1.78	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	2.02		1.78	0.72
375-95-1	Perfluorononanoic acid (PFNA)	0.43	J	1.78	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.78	U	1.78	0.68
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.78	U	1.78	0.69
307-55-1	Perfluorododecanoic acid (PFDoA)	1.78	U	1.78	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.78	U	1.78	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.78	U	1.78	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.84	J	1.78	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.22	J	1.78	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.78	U	1.78	0.84
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.61		1.78	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.78	U	1.78	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.89	U	8.89	8.89
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.8	U	17.8	1.51
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.8	U	17.8	1.33
27619-97-2	6:2 FTS	17.8	U	17.8	4.89
39108-34-4	8:2 FTS	17.8	U	17.8	2.58

NW 2/4/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1
SDG No.:
Client Sample ID: SSP_FIELD BLANK_20191119 Lab Sample ID: 200-51645-7
Matrix: Water Lab File ID: SC120719E018.d
Analysis Method: 537 (modified) Date Collected: 11/21/2019 12:50
Extraction Method: 3535 Date Extracted: 12/04/2019 14:13
Sample wt/vol: 306.3(mL) Date Analyzed: 12/08/2019 13:32
Con. Extract Vol.: 10(mL) Dilution Factor: 1
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.63	U	1.63	0.82
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.63	U	1.63	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	1.63	U	1.63	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.63	U	1.63	0.74
335-67-1	Perfluorooctanoic acid (PFOA)	1.63	U	1.63	0.66
375-95-1	Perfluorononanoic acid (PFNA)	1.63	U	1.63	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	1.63	U	1.63	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.63	U	1.63	0.64
307-55-1	Perfluorododecanoic acid (PFDoA)	1.63	U	1.63	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.63	U	1.63	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.63	U	1.63	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.63	U	1.63	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.63	U	1.63	0.65
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.63	U	1.63	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.63	U	1.63	0.50
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.63	U	1.63	0.73
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.16	U	8.16	8.16
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.3	U	16.3	1.39
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.3	U	16.3	1.22
27619-97-2	6:2 FTS	16.3	U	16.3	4.49
39108-34-4	8:2 FTS	16.3	U	16.3	2.37

NW 2/4/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: SSP EQUIPMENT BLANK 20191119 Lab Sample ID: 200-51645-8

Matrix: Water Lab File ID: SC120719E019.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 12:55

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 306.8(mL) Date Analyzed: 12/08/2019 13:40

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.63	U	1.63	0.81
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.63	U	1.63	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	1.63	U	1.63	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.63	U	1.63	0.74
335-67-1	Perfluorooctanoic acid (PFOA)	1.63	U	1.63	0.66
375-95-1	Perfluorononanoic acid (PFNA)	1.63	U	1.63	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	1.63	U	1.63	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.63	U	1.63	0.64
307-55-1	Perfluorododecanoic acid (PFDoA)	1.63	U	1.63	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.63	U	1.63	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.63	U	1.63	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.63	U	1.63	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.63	U	1.63	0.65
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.63	U	1.63	0.77
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.63	U	1.63	0.50
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.63	U	1.63	0.73
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.15	U	8.15	8.15
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.3	U	16.3	1.39
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.3	U	16.3	1.22
27619-97-2	6:2 FTS	16.3	U	16.3	4.48
39108-34-4	8:2 FTS	16.3	U	16.3	2.36

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

9

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51645-1

SDG No.:

Client Sample ID: SP-B Lab Sample ID: 200-51645-9

Matrix: Water Lab File ID: SC120719E020.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 00:00

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 285.7(mL) Date Analyzed: 12/08/2019 13:48

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.53	J	1.75	0.88
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.75 ~~1.30~~	~~J B~~ U	1.75	0.55
307-24-4	Perfluorohexanoic acid (PFHxA)	1.21	J	1.75	0.67
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.20	J	1.75	0.80
335-67-1	Perfluorooctanoic acid (PFOA)	2.64		1.75	0.71
375-95-1	Perfluorononanoic acid (PFNA)	0.52	J	1.75	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.75	U	1.75	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.75	U	1.75	0.68
307-55-1	Perfluorododecanoic acid (PFDoA)	1.75	U	1.75	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.75	U	1.75	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.75	U	1.75	0.81
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.50	J	1.75	0.43
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.07	J	1.75	0.70
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.75	U	1.75	0.83
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.98		1.75	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.75	U	1.75	0.79
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.75	U	8.75	8.75
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.5	U	17.5	1.49
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.5	U	17.5	1.31
27619-97-2	6:2 FTS	17.5	U	17.5	4.81
39108-34-4	8:2 FTS	17.5	U	17.5	2.54

NW 2/4/20

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 200-51647-1
Laboratory: Eurofins Test America, Burlington, Vermont
Site: DEC-Speonk185, Speonk, New York
Date: February 3, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SP-81	200-51647-1	Water
2	SP-90	200-51647-2	Water
3	SP-23P	200-51647-3	Water
4	SP-44	200-51647-4	Water
5	SP-74D	200-51647-5	Water
6	SP-74	200-51647-6	Water

A Data Usability Summary Review was performed on the analytical data for six water samples collected on November 21, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the USEPA Method Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).

Specific method references are as follows:

Analysis	*Method References*
PFAS	USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the NYSDEC Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids, October 2019, and the USEPA Data Review and Validation Guidelines as follows:

- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, November 2018;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

PFAS

- Holding times and sample preservation
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries

- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Perfluorinated Alkyl Substances (PFAS)

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
200-150361/1-A	PFPeA	0.714	U	3, 4

Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
SSP_EQUIPMENT BLANK_20191119	None - ND	-	-	-
SSP_FIELD BLANK_20191119	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples/Laboratory Control Sample Duplicate (LCS/LCSD)

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51647-1

SDG No.:

Client Sample ID: SP-81 Lab Sample ID: 200-51647-1

Matrix: Water Lab File ID: SC120719E021.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 09:15

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 308(mL) Date Analyzed: 12/08/2019 13:56

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.62	U	1.62	0.81
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.62	U	1.62	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	1.62	U	1.62	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.62	U	1.62	0.74
335-67-1	Perfluorooctanoic acid (PFOA)	1.62	U	1.62	0.66
375-95-1	Perfluorononanoic acid (PFNA)	1.62	U	1.62	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	1.62	U	1.62	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.62	U	1.62	0.63
307-55-1	Perfluorododecanoic acid (PFDoA)	1.62	U	1.62	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.62	U	1.62	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.62	U	1.62	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.62	U	1.62	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.62	U	1.62	0.65
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.62	U	1.62	0.77
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.62	U	1.62	0.50
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.62	U	1.62	0.73
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.12	U	8.12	8.12
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.2	U	16.2	1.38
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.2	U	16.2	1.22
27619-97-2	6:2 FTS	16.2	U	16.2	4.46
39108-34-4	8:2 FTS	16.2	U	16.2	2.35

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

2

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51647-1

SDG No.:

Client Sample ID: SP-90 Lab Sample ID: 200-51647-2

Matrix: Water Lab File ID: SC120719E022.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 10:07

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 314.2(mL) Date Analyzed: 12/08/2019 14:05

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	11.1		1.59	0.80
2706-90-3	Perfluoropentanoic acid (PFPeA)	33.9	B	1.59	0.50
307-24-4	Perfluorohexanoic acid (PFHxA)	36.7		1.59	0.60
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.34		1.59	0.72
335-67-1	Perfluorooctanoic acid (PFOA)	16.5		1.59	0.64
375-95-1	Perfluorononanoic acid (PFNA)	0.94	J	1.59	0.21
335-76-2	Perfluorodecanoic acid (PFDA)	1.59	U	1.59	0.61
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.59	U	1.59	0.62
307-55-1	Perfluorododecanoic acid (PFDoA)	1.59	U	1.59	0.47
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.59	U	1.59	0.48
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.59	U	1.59	0.73
375-73-5	Perfluorobutanesulfonic acid (PFBS)	32.8		1.59	0.39
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.63		1.59	0.64
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.59	U	1.59	0.76
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	5.96		1.59	0.49
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.59	U	1.59	0.72
754-91-6	Perfluorooctanesulfonamide (FOSA)	7.96	U	7.96	7.96
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	15.9	U	15.9	1.35
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	15.9	U	15.9	1.19
27619-97-2	6:2 FTS	15.9	U	15.9	4.38
39108-34-4	8:2 FTS	15.9	U	15.9	2.31

MW 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

3

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51647-1

SDG No.:

Client Sample ID: SP-23P Lab Sample ID: 200-51647-3

Matrix: Water Lab File ID: SC120719E023.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 11:17

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 298.7(mL) Date Analyzed: 12/08/2019 14:13

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	5.20		1.67	0.84
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.67 ~~0.81~~	~~J B~~ U	1.67	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	1.67	U	1.67	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.67	U	1.67	0.76
335-67-1	Perfluorooctanoic acid (PFOA)	1.67	U	1.67	0.68
375-95-1	Perfluorononanoic acid (PFNA)	1.67	U	1.67	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	1.67	U	1.67	0.64
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.67	U	1.67	0.65
307-55-1	Perfluorododecanoic acid (PFDoA)	1.67	U	1.67	0.49
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.67	U	1.67	0.50
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.67	U	1.67	0.77
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.67	U	1.67	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.68	J	1.67	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.67	U	1.67	0.80
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.54	J	1.67	0.51
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.67	U	1.67	0.75
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.37	U	8.37	8.37
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.7	U	16.7	1.42
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.7	U	16.7	1.26
27619-97-2	6:2 FTS	16.7	U	16.7	4.60
39108-34-4	8:2 FTS	16.7	U	16.7	2.43

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51647-1
SDG No.:
Client Sample ID: SP-44 Lab Sample ID: 200-51647-4
Matrix: Water Lab File ID: SC120719E024.d
Analysis Method: 537 (modified) Date Collected: 11/21/2019 12:00
Extraction Method: 3535 Date Extracted: 12/04/2019 14:13
Sample wt/vol: 311(mL) Date Analyzed: 12/08/2019 14:21
Con. Extract Vol.: 10(mL) Dilution Factor: 1
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.02		1.61	0.80
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.28	~~B~~ U	1.61	0.51
307-24-4	Perfluorohexanoic acid (PFHxA)	2.73		1.61	0.61
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.22	J	1.61	0.73
335-67-1	Perfluorooctanoic acid (PFOA)	3.61		1.61	0.65
375-95-1	Perfluorononanoic acid (PFNA)	0.24	J	1.61	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	1.61	U	1.61	0.62
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.61	U	1.61	0.63
307-55-1	Perfluorododecanoic acid (PFDoA)	1.61	U	1.61	0.47
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.61	U	1.61	0.48
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.61	U	1.61	0.74
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.16	J	1.61	0.39
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.10		1.61	0.64
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.61	U	1.61	0.76
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	4.63		1.61	0.49
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.61	U	1.61	0.72
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.04	U	8.04	8.04
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.1	U	16.1	1.37
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.1	U	16.1	1.21
27619-97-2	6:2 FTS	16.1	U	16.1	4.42
39108-34-4	8:2 FTS	16.1	U	16.1	2.33

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

5

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51647-1

SDG No.:

Client Sample ID: SP-74D Lab Sample ID: 200-51647-5

Matrix: Water Lab File ID: SC120719E025.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 13:33

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 290(mL) Date Analyzed: 12/08/2019 14:29

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.72	U	1.72	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.72	U	1.72	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	1.72	U	1.72	0.66
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.72	U	1.72	0.78
335-67-1	Perfluorooctanoic acid (PFOA)	1.72	U	1.72	0.70
375-95-1	Perfluorononanoic acid (PFNA)	1.72	U	1.72	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	1.72	U	1.72	0.66
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.72	U	1.72	0.67
307-55-1	Perfluorododecanoic acid (PFDoA)	1.72	U	1.72	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.72	U	1.72	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.72	U	1.72	0.79
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.72	U	1.72	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.72	U	1.72	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.72	U	1.72	0.82
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.72	U	1.72	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.72	U	1.72	0.78
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.62	U	8.62	8.62
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.2	U	17.2	1.47
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.2	U	17.2	1.29
27619-97-2	6:2 FTS	17.2	U	17.2	4.74
39108-34-4	8:2 FTS	17.2	U	17.2	2.50

NW 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

6

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51647-1

SDG No.:

Client Sample ID: SP-74 Lab Sample ID: 200-51647-6

Matrix: Water Lab File ID: SC120719E026.d

Analysis Method: 537 (modified) Date Collected: 11/21/2019 13:49

Extraction Method: 3535 Date Extracted: 12/04/2019 14:13

Sample wt/vol: 297.1(mL) Date Analyzed: 12/08/2019 14:37

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150475 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.68	U	1.68	0.84
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.68	U	1.68	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	1.68	U	1.68	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.68	U	1.68	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	0.75	J	1.68	0.68
375-95-1	Perfluorononanoic acid (PFNA)	1.68	U	1.68	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	1.68	U	1.68	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.68	U	1.68	0.66
307-55-1	Perfluorododecanoic acid (PFDoA)	1.68	U	1.68	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.68	U	1.68	0.50
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.68	U	1.68	0.77
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.68	U	1.68	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.68	U	1.68	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.68	U	1.68	0.80
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.68	U	1.68	0.51
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.68	U	1.68	0.76
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.41	U	8.41	8.41
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.8	U	16.8	1.43
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.8	U	16.8	1.26
27619-97-2	6:2 FTS	16.8	U	16.8	4.63
39108-34-4	8:2 FTS	16.8	U	16.8	2.44

MW 2/3/20

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 200-51660-1
Laboratory: Eurofins Test America, Burlington, Vermont
Site: DEC-Speonk185, Speonk, New York
Date: February 3, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SP-1	200-51660-1	Water
2	SP-5	200-51660-2	Water
2MS	SP-5MS	200-51660-2MS	Water
2MSD	SP-5MSD	200-51660-2MSD	Water
3	SP-63C	200-51660-3	Water
4	SP-53	200-51660-4	Water
5	SP-50M	200-51660-5	Water
6	SP-52	200-51660-6	Water
7	SSP_EQUIPMENT BLANK_20191122	200-51660-7	Water
8	SSP_FIELD BLANK_20191122	200-51660-8	Water
9	SP-A	200-51660-9	Water

A Data Usability Summary Review was performed on the analytical data for seven water samples, one aqueous equipment blank sample, and one aqueous field blank sample collected on November 22, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the USEPA Method Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).

Specific method references are as follows:

Analysis	*Method References*
PFAS	USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the NYSDEC Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids, October 2019, and the USEPA Data Review and Validation Guidelines as follows:

- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, November 2018;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

PFAS

- Holding times and sample preservation
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Perfluorinated Alkyl Substances (PFAS)

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
SSP_EQUIPMENT BLANK_20191122	PFBA	0.85	U	1, 2, 3, 4, 5, 6, 9
SSP_FIELD BLANK_20191122	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD percent recoveries (%R) and/or RPDs outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS/MSD Sample	Compound	MS %R/MSD %R/RPD	Qualifier
2	NMeFOSAA	OK/OK/23	None for RPD Alone

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

PFAS				
Compound	SP-5 ng/L	SP-A ng/L	RPD	Qualifier
PFPeA	0.97	0.93	4%	
PFHxA	1.01	0.79	24%	
PFHpA	0.80	1.70U	NC	
PFOA	6.34	5.61	12%	
PFBS	0.44	1.70U	NC	
PFHxS	0.97	1.03	6%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

1

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-1 Lab Sample ID: 200-51660-1

Matrix: Water Lab File ID: SC120819C005.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 08:47

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 279.1(mL) Date Analyzed: 12/08/2019 23:06

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.79 ~~1.55~~	J U	1.79	0.90
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.59	J	1.79	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	1.41	J	1.79	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.83	J	1.79	0.82
335-67-1	Perfluorooctanoic acid (PFOA)	2.87		1.79	0.73
375-95-1	Perfluorononanoic acid (PFNA)	0.47	J	1.79	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.79	U	1.79	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.79	U	1.79	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.79	U	1.79	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.79	U	1.79	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.79	U	1.79	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.48	J	1.79	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.76	J	1.79	0.72
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.79	U	1.79	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.83		1.79	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.79	U	1.79	0.81
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.96	U	8.96	8.96
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.9	U	17.9	1.52
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.9	U	17.9	1.34
27619-97-2	6:2 FTS	17.9	U	17.9	4.93
39108-34-4	8:2 FTS	17.9	U	17.9	2.60

NW 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

2

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-5 Lab Sample ID: 200-51660-2

Matrix: Water Lab File ID: SC120819C006.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 10:05

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 285.5(mL) Date Analyzed: 12/08/2019 23:15

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.75 ~~1.58~~	J u	1.75	0.88
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.97	J	1.75	0.55
307-24-4	Perfluorohexanoic acid (PFHxA)	1.01	J	1.75	0.67
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.80	J	1.75	0.80
335-67-1	Perfluorooctanoic acid (PFOA)	6.34		1.75	0.71
375-95-1	Perfluorononanoic acid (PFNA)	1.75	U	1.75	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.75	U	1.75	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.75	U	1.75	0.68
307-55-1	Perfluorododecanoic acid (PFDoA)	1.75	U	1.75	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.75	U	1.75	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.75	U	1.75	0.81
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.44	J	1.75	0.43
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.97	J	1.75	0.70
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.75	U	1.75	0.83
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.75	U	1.75	0.53
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.75	U	1.75	0.79
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.76	U	8.76	8.76
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.5	U	17.5	1.49
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.5	U	17.5	1.31
27619-97-2	6:2 FTS	17.5	U	17.5	4.82
39108-34-4	8:2 FTS	17.5	U	17.5	2.54

NW 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

3

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-63C Lab Sample ID: 200-51660-3

Matrix: Water Lab File ID: SC120819C009.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 10:59

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 279.9(mL) Date Analyzed: 12/08/2019 23:39

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.79 ~~1.64~~	J U	1.79	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.17	J	1.79	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	1.06	J	1.79	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.79	U	1.79	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	2.10		1.79	0.72
375-95-1	Perfluorononanoic acid (PFNA)	0.32	J	1.79	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.79	U	1.79	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.79	U	1.79	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.79	U	1.79	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.79	U	1.79	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.79	U	1.79	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.62		1.79	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.58	J	1.79	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.79	U	1.79	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.64	J	1.79	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.79	U	1.79	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.93	U	8.93	8.93
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.9	U	17.9	1.52
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.9	U	17.9	1.34
27619-97-2	6:2 FTS	17.9	U	17.9	4.91
39108-34-4	8:2 FTS	17.9	U	17.9	2.59

MW 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

4

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-53 Lab Sample ID: 200-51660-4

Matrix: Water Lab File ID: SC120819C010.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 11:50

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 278.2(mL) Date Analyzed: 12/08/2019 23:47

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.84	u	1.80	0.90
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.43		1.80	0.57
307-24-4	Perfluorohexanoic acid (PFHxA)	1.60	J	1.80	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.80	U	1.80	0.82
335-67-1	Perfluorooctanoic acid (PFOA)	1.23	J	1.80	0.73
375-95-1	Perfluorononanoic acid (PFNA)	0.34	J	1.80	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.80	U	1.80	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.80	U	1.80	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.80	U	1.80	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.80	U	1.80	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.80	U	1.80	0.83
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.59	J	1.80	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.26	J	1.80	0.72
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.80	U	1.80	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.50		1.80	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.80	U	1.80	0.81
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.99	U	8.99	8.99
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18.0	U	18.0	1.53
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18.0	U	18.0	1.35
27619-97-2	6:2 FTS	18.0	U	18.0	4.94
39108-34-4	8:2 FTS	18.0	U	18.0	2.61

nw 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

5

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-50M Lab Sample ID: 200-51660-5

Matrix: Water Lab File ID: SC120819C011.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 13:09

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 281.7(mL) Date Analyzed: 12/08/2019 23:56

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	4.11	U	1.77	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.21		1.77	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	2.64		1.77	0.67
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.48		1.77	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	91.1		1.77	0.72
375-95-1	Perfluorononanoic acid (PFNA)	1.77	U	1.77	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.77	U	1.77	0.68
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.77	U	1.77	0.69
307-55-1	Perfluorododecanoic acid (PFDoA)	1.77	U	1.77	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.77	U	1.77	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.77	U	1.77	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.77	U	1.77	0.43
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.77	U	1.77	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.77	U	1.77	0.84
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.77	U	1.77	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.77	U	1.77	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.87	U	8.87	8.87
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.7	U	17.7	1.51
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.7	U	17.7	1.33
27619-97-2	6:2 FTS	17.7	U	17.7	4.88
39108-34-4	8:2 FTS	17.7	U	17.7	2.57

nw 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

6

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-52 Lab Sample ID: 200-51660-6

Matrix: Water Lab File ID: SC120819C012.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 14:10

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 275.5(mL) Date Analyzed: 12/09/2019 00:04

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.81 ~~1.18~~	~~J~~ U	1.81	0.91
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.81	U	1.81	0.57
307-24-4	Perfluorohexanoic acid (PFHxA)	1.81	U	1.81	0.69
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.81	U	1.81	0.83
335-67-1	Perfluorooctanoic acid (PFOA)	1.81	U	1.81	0.74
375-95-1	Perfluorononanoic acid (PFNA)	1.81	U	1.81	0.25
335-76-2	Perfluorodecanoic acid (PFDA)	1.81	U	1.81	0.70
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.81	U	1.81	0.71
307-55-1	Perfluorododecanoic acid (PFDoA)	1.81	U	1.81	0.54
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.81	U	1.81	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.81	U	1.81	0.83
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.81	U	1.81	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.81	U	1.81	0.73
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.81	U	1.81	0.86
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.81	U	1.81	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.81	U	1.81	0.82
754-91-6	Perfluorooctanesulfonamide (FOSA)	9.07	U	9.07	9.07
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18.1	U	18.1	1.54
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18.1	U	18.1	1.36
27619-97-2	6:2 FTS	18.1	U	18.1	4.99
39108-34-4	8:2 FTS	18.1	U	18.1	2.63

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

7

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SSP_EQUIPMENT BLANK_20191122 Lab Sample ID: 200-51660-7

Matrix: Water Lab File ID: SC120819C013.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 10:15

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 305.2(mL) Date Analyzed: 12/09/2019 00:12

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.85	J	1.64	0.82
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.64	U	1.64	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	1.64	U	1.64	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.64	U	1.64	0.75
335-67-1	Perfluorooctanoic acid (PFOA)	1.64	U	1.64	0.66
375-95-1	Perfluorononanoic acid (PFNA)	1.64	U	1.64	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	1.64	U	1.64	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.64	U	1.64	0.64
307-55-1	Perfluorododecanoic acid (PFDoA)	1.64	U	1.64	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.64	U	1.64	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.64	U	1.64	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.64	U	1.64	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.64	U	1.64	0.66
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.64	U	1.64	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.64	U	1.64	0.50
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.64	U	1.64	0.74
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.19	U	8.19	8.19
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.4	U	16.4	1.39
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.4	U	16.4	1.23
27619-97-2	6:2 FTS	16.4	U	16.4	4.51
39108-34-4	8:2 FTS	16.4	U	16.4	2.38

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

8

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SSP_FIELD BLANK_20191122 Lab Sample ID: 200-51660-8

Matrix: Water Lab File ID: SC120819C014.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 10:20

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 305.5(mL) Date Analyzed: 12/09/2019 00:20

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.64	U	1.64	0.82
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.64	U	1.64	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	1.64	U	1.64	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.64	U	1.64	0.74
335-67-1	Perfluorooctanoic acid (PFOA)	1.64	U	1.64	0.66
375-95-1	Perfluorononanoic acid (PFNA)	1.64	U	1.64	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	1.64	U	1.64	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.64	U	1.64	0.64
307-55-1	Perfluorododecanoic acid (PFDoA)	1.64	U	1.64	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.64	U	1.64	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.64	U	1.64	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.64	U	1.64	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.64	U	1.64	0.65
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.64	U	1.64	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.64	U	1.64	0.50
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.64	U	1.64	0.74
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.18	U	8.18	8.18
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	16.4	U	16.4	1.39
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16.4	U	16.4	1.23
27619-97-2	6:2 FTS	16.4	U	16.4	4.50
39108-34-4	8:2 FTS	16.4	U	16.4	2.37

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

9

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51660-1

SDG No.:

Client Sample ID: SP-A Lab Sample ID: 200-51660-9

Matrix: Water Lab File ID: SC120819C015.d

Analysis Method: 537 (modified) Date Collected: 11/22/2019 00:00

Extraction Method: 3535 Date Extracted: 12/05/2019 15:20

Sample wt/vol: 294(mL) Date Analyzed: 12/09/2019 00:28

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150478 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.70 ~~1.60~~	~~J~~ U	1.70	0.85
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.93	J	1.70	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	0.79	J	1.70	0.65
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.70	U	1.70	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	5.61		1.70	0.69
375-95-1	Perfluorononanoic acid (PFNA)	1.70	U	1.70	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	1.70	U	1.70	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.70	U	1.70	0.66
307-55-1	Perfluorododecanoic acid (PFDoA)	1.70	U	1.70	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.70	U	1.70	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.70	U	1.70	0.78
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.70	U	1.70	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.03	J	1.70	0.68
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.70	U	1.70	0.81
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.70	U	1.70	0.52
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.70	U	1.70	0.77
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.50	U	8.50	8.50
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.0	U	17.0	1.45
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.0	U	17.0	1.28
27619-97-2	6:2 FTS	17.0	U	17.0	4.68
39108-34-4	8:2 FTS	17.0	U	17.0	2.47

NW 2/3/20

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 200-51698-1
Laboratory: Eurofins Test America, Burlington, Vermont
Site: DEC-Speonk185, Speonk, New York
Date: February 3, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SP-32	200-51698-1	Water
2	SP-18D	200-51698-2	Water
3	SP-18S	200-51698-3	Water
4	SP-22P	200-51698-4	Water
5	SP-22S	200-51698-5	Water
6	SP-30	200-51698-6	Water
7	SP-62	200-51698-7	Water

A Data Usability Summary Review was performed on the analytical data for seven water samples collected on November 26, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the USEPA Method Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).

Specific method references are as follows:

Analysis	*Method References*
PFAS	USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the NYSDEC Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids, October 2019, and the USEPA Data Review and Validation Guidelines as follows:

- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, November 2018;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

PFAS

- Holding times and sample preservation
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning

- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Perfluorinated Alkyl Substances (PFAS)

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
200-150518/1-A	PFBA	1.335	U	All Samples
	PFPeA	0.736	U	3, 4, 5, 6, 7
	PFNA	0.506	U	1, 3, 4, 5, 7
	PFDoA	0.690	None	All Samples ND
	PFTeA	0.972	None	
	PFBS	0.514	U	3, 5, 6, 7

Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
SSP_FIELD BLANK_20191122	None - ND	-	-	-

Surrogate Spike Recoveries

- The following table presents surrogate percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

Sample ID	Surrogate	%R	Qualifier
1	13C2-PFTeDA	47%	UJ - Associated Compound

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples/Laboratory Control Sample Duplicate (LCS/LCSD)

- The following table presents LCS/LCSD percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

LCS/LCSD Sample	Compound	LCS %R/LCSD %R/RPD	Qualifier	Affected Samples
200-150518/2-A	NMeFOSAA	OK/OK/24	None	For RPD Alone

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-32 Lab Sample ID: 200-51698-1

Matrix: Water Lab File ID: SC121119D005.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 08:22

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 263.2(mL) Date Analyzed: 12/11/2019 23:26

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	7.78	~~B~~ U	1.90	0.95
2706-90-3	Perfluoropentanoic acid (PFPeA)	13.5	~~B~~	1.90	0.60
307-24-4	Perfluorohexanoic acid (PFHxA)	19.6		1.90	0.72
375-85-9	Perfluoroheptanoic acid (PFHpA)	9.89		1.90	0.86
335-67-1	Perfluorooctanoic acid (PFOA)	16.5		1.90	0.77
375-95-1	Perfluorononanoic acid (PFNA)	1.90 ~~0.85~~	~~J B~~ U	1.90	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	1.90	U	1.90	0.73
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.90	U	1.90	0.74
307-55-1	Perfluorododecanoic acid (PFDoA)	1.90	U	1.90	0.56
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.90	U	1.90	0.57
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.90	~~J~~ UJ	1.90	0.87
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.92	~~B~~	1.90	0.47
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.47		1.90	0.76
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.90	U	1.90	0.90
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.16		1.90	0.58
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.90	U	1.90	0.85
754-91-6	Perfluorooctanesulfonamide (FOSA)	9.50	U	9.50	9.50
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	19.0	U	19.0	1.61
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	19.0	U	19.0	1.42
27619-97-2	6:2 FTS	19.0	U	19.0	5.22
39108-34-4	8:2 FTS	19.0	U	19.0	2.75

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-32 Lab Sample ID: 200-51698-1

Matrix: Water Lab File ID: SC121119D005.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 08:22

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 263.2(mL) Date Analyzed: 12/11/2019 23:26

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	89		25-150
STL01893	13C5 PFPeA	100		25-150
STL00993	13C2 PFHxA	101		50-150
STL01892	13C4 PFHpA	101		50-150
STL00990	13C4 PFOA	100		50-150
STL00995	13C5 PFNA	89		50-150
STL00996	13C2 PFDA	86		50-150
STL00997	13C2 PFUnA	78		50-150
STL00998	13C2 PFDoA	80		50-150
STL02116	13C2 PFTeDA	47	F	50-150
STL02337	13C3 PFBS	99		50-150
STL00994	18O2 PFHxS	97		50-150
STL00991	13C4 PFOS	96		50-150
STL01056	13C8 FOSA	79		25-150
STL02118	d3-NMeFOSAA	67		50-150
STL02117	d5-NEtFOSAA	70		50-150
STL02279	M2-6:2 FTS	93		25-150
STL02280	M2-8:2 FTS	113		25-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

2

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-18D Lab Sample ID: 200-51698-2

Matrix: Water Lab File ID: SC121119D006.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 08:57

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 279.8(mL) Date Analyzed: 12/11/2019 23:35

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.79 ~~0.93~~	~~J B~~ U	1.79	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.79	U	1.79	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	1.79	U	1.79	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.79	U	1.79	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	1.79	U	1.79	0.72
375-95-1	Perfluorononanoic acid (PFNA)	1.79	U	1.79	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.79	U	1.79	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.79	U	1.79	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.79	U	1.79	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.79	U	1.79	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.79	U	1.79	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	U	1.79	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	U	1.79	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.79	U	1.79	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	U	1.79	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.79	U	1.79	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.93	U	8.93	8.93
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.9	U	17.9	1.52
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.9	U	17.9	1.34
27619-97-2	6:2 FTS	17.9	U	17.9	4.91
39108-34-4	8:2 FTS	17.9	U	17.9	2.59

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

3

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-18S Lab Sample ID: 200-51698-3

Matrix: Water Lab File ID: SC121119D007.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 09:33

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 263.2(mL) Date Analyzed: 12/11/2019 23:43

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.84	~~B~~ U	1.90	0.95
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.90 ~~1.57~~	~~J B~~ U	1.90	0.60
307-24-4	Perfluorohexanoic acid (PFHxA)	1.21	J	1.90	0.72
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.77	J	1.90	0.86
335-67-1	Perfluorooctanoic acid (PFOA)	3.53		1.90	0.77
375-95-1	Perfluorononanoic acid (PFNA)	1.90 ~~0.80~~	~~J B~~ U	1.90	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	1.90	U	1.90	0.73
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.90	U	1.90	0.74
307-55-1	Perfluorododecanoic acid (PFDoA)	1.90	U	1.90	0.56
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.90	U	1.90	0.57
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.90	U	1.90	0.87
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.90 ~~1.81~~	~~J B~~ U	1.90	0.47
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.50		1.90	0.76
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.90	U	1.90	0.90
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.41		1.90	0.58
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.90	U	1.90	0.85
754-91-6	Perfluorooctanesulfonamide (FOSA)	9.50	U	9.50	9.50
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	19.0	U	19.0	1.61
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	19.0	U	19.0	1.42
27619-97-2	6:2 FTS	19.0	U	19.0	5.22
39108-34-4	8:2 FTS	19.0	U	19.0	2.75

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

4

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-22P Lab Sample ID: 200-51698-4

Matrix: Water Lab File ID: SC121119D008.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 10:29

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 276.8(mL) Date Analyzed: 12/11/2019 23:51

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	9.05	~~B~~ U	1.81	0.90
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.81 ~~1.25~~	~~J B~~ U	1.81	0.57
307-24-4	Perfluorohexanoic acid (PFHxA)	1.47	J	1.81	0.69
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.69		1.81	0.82
335-67-1	Perfluorooctanoic acid (PFOA)	101		1.81	0.73
375-95-1	Perfluorononanoic acid (PFNA)	1.81 ~~0.28~~	~~J B~~ U	1.81	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	1.81	U	1.81	0.70
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.81	U	1.81	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.81	U	1.81	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.81	U	1.81	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.81	U	1.81	0.83
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.81	U	1.81	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.81	U	1.81	0.72
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.81	U	1.81	0.86
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.81	U	1.81	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.81	U	1.81	0.81
754-91-6	Perfluorooctanesulfonamide (FOSA)	9.03	U	9.03	9.03
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18.1	U	18.1	1.54
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18.1	U	18.1	1.35
27619-97-2	6:2 FTS	18.1	U	18.1	4.97
39108-34-4	8:2 FTS	18.1	U	18.1	2.62

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

5

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-22S Lab Sample ID: 200-51698-5

Matrix: Water Lab File ID: SC121119D009.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 11:07

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 273.6(mL) Date Analyzed: 12/11/2019 23:59

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	5.98	~~B~~ U	1.83	0.91
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.02	~~B~~ U	1.83	0.58
307-24-4	Perfluorohexanoic acid (PFHxA)	3.29		1.83	0.69
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.36		1.83	0.83
335-67-1	Perfluorooctanoic acid (PFOA)	7.62		1.83	0.74
375-95-1	Perfluorononanoic acid (PFNA)	1.83 ~~1.16~~	~~J B~~ U	1.83	0.25
335-76-2	Perfluorodecanoic acid (PFDA)	1.83	U	1.83	0.70
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.83	U	1.83	0.71
307-55-1	Perfluorododecanoic acid (PFDoA)	1.83	U	1.83	0.54
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.83	U	1.83	0.55
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.83	U	1.83	0.84
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.09	~~B~~ U	1.83	0.45
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.32		1.83	0.73
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.83	U	1.83	0.87
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	8.70		1.83	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.83	U	1.83	0.82
754-91-6	Perfluorooctanesulfonamide (FOSA)	9.14	U	9.14	9.14
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18.3	U	18.3	1.55
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18.3	U	18.3	1.37
27619-97-2	6:2 FTS	18.3	U	18.3	5.03
39108-34-4	8:2 FTS	18.3	U	18.3	2.65

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

6

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-30 Lab Sample ID: 200-51698-6

Matrix: Water Lab File ID: SC121119D010.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 12:40

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 259.2(mL) Date Analyzed: 12/12/2019 00:07

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.93 ~~1.52~~	~~J B~~ U	1.93	0.96
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.93 ~~1.21~~	~~J B~~ U	1.93	0.61
307-24-4	Perfluorohexanoic acid (PFHxA)	1.41	J	1.93	0.73
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.21	J	1.93	0.88
335-67-1	Perfluorooctanoic acid (PFOA)	2.55		1.93	0.78
375-95-1	Perfluorononanoic acid (PFNA)	1.93	U	1.93	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	1.93	U	1.93	0.74
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.93	U	1.93	0.75
307-55-1	Perfluorododecanoic acid (PFDoA)	1.93	U	1.93	0.57
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.93	U	1.93	0.58
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.93	U	1.93	0.89
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.93 ~~0.73~~	~~J B~~ U	1.93	0.47
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.35		1.93	0.77
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.93	U	1.93	0.92
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.54		1.93	0.59
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.93	U	1.93	0.87
754-91-6	Perfluorooctanesulfonamide (FOSA)	9.65	U	9.65	9.65
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	19.3	U /	19.3	1.64
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	19.3	U	19.3	1.45
27619-97-2	6:2 FTS	19.3	U	19.3	5.30
39108-34-4	8:2 FTS	19.3	U	19.3	2.80

NW 2/3/20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

7

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-51698-1

SDG No.:

Client Sample ID: SP-62 Lab Sample ID: 200-51698-7

Matrix: Water Lab File ID: SC121119D011.d

Analysis Method: 537 (modified) Date Collected: 11/26/2019 13:50

Extraction Method: 3535 Date Extracted: 12/09/2019 14:55

Sample wt/vol: 279.8(mL) Date Analyzed: 12/12/2019 00:16

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 150608 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	3.25	~~B~~ U	1.79	0.89
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.96	~~B~~ U	1.79	0.56
307-24-4	Perfluorohexanoic acid (PFHxA)	3.23		1.79	0.68
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.06	J	1.79	0.81
335-67-1	Perfluorooctanoic acid (PFOA)	4.96		1.79	0.72
375-95-1	Perfluorononanoic acid (PFNA)	1.79 ~~0.65~~	~~J B~~ U	1.79	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	0.93	J	1.79	0.69
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.79	U	1.79	0.70
307-55-1	Perfluorododecanoic acid (PFDoA)	1.79	U	1.79	0.53
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.79	U	1.79	0.54
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.79	U	1.79	0.82
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79 ~~0.84~~	~~J B~~ U	1.79	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.39		1.79	0.71
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.79	U	1.79	0.85
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	14.1		1.79	0.55
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.79	U	1.79	0.80
754-91-6	Perfluorooctanesulfonamide (FOSA)	8.93	U	8.93	8.93
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	17.9	U	17.9	1.52
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	17.9	U	17.9	1.34
27619-97-2	6:2 FTS	17.9	U	17.9	4.91
39108-34-4	8:2 FTS	17.9	U	17.9	2.59

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 460-197386-1
Laboratory: Eurofins Test America, Edison, New Jersey
Site: DEC-Speonk185, Speonk, New York
Date: January 28, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SP-81	460-197386-1	Water
2	SP-90	460-197386-2	Water
3	SP-23P	460-197386-3	Water
4	SP-44	460-197386-4	Water
5	SP-74D	460-197386-5	Water
6	SP-74	460-197386-6	Water

A Data Usability Summary Review was performed on the analytical data for six water samples collected on November 21, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the Environmental Protection Agency (USEPA) Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions.

Specific method references are as follows:

Analysis	*Method References*
SVOCs by SIM (1,4-Dioxane)	USEPA SW-846 Method 8270D SIM

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination

- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes. There were no qualifications.

Semivolatile Organic Compounds by SIM (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days and analyzed within 40 days for water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197386-1

SDG No.:

Client Sample ID: SP-81 Lab Sample ID: 460-197386-1

Matrix: Water Lab File ID: C5242.D

Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 09:15

Extract. Method: 3510C Date Extracted: 11/25/2019 09:35

Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 05:34

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.69		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	40		10-150

MT 1/28/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197386-1
SDG No.:
Client Sample ID: SP-90 Lab Sample ID: 460-197386-2
Matrix: Water Lab File ID: C5243.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 10:07
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 05:53
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.22		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	40		10-150

MT 1/28/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197386-1
SDG No.:
Client Sample ID: SP-23P Lab Sample ID: 460-197386-3
Matrix: Water Lab File ID: C5244.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 11:17
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 06:12
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	8.4		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	46		10-150

MT 1/30/20

4

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197386-1
SDG No.:
Client Sample ID: SP-44 Lab Sample ID: 460-197386-4
Matrix: Water Lab File ID: C5245.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 12:00
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 06:32
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.14	J	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	40		10-150

MT 1/30/20

5

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197386-1
SDG No.:
Client Sample ID: SP-74D Lab Sample ID: 460-197386-5
Matrix: Water Lab File ID: C5246.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 13:33
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 06:51
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.29		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	41		10-150

MT 1/30/20

6

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197386-1
SDG No.:
Client Sample ID: SP-74 Lab Sample ID: 460-197386-6
Matrix: Water Lab File ID: C5247.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 13:49
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 07:11
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	39		10-150

MT 1/28/20

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 460-197387-1
Laboratory: Eurofins Test America, Edison, New Jersey
Site: DEC-Speonk185, Speonk, New York
Date: January 28, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	ML-1_40	460-197387-1	Water
2	ML-1_80	460-197387-2	Water
3	ML-5_60	460-197387-3	Water
4	ML-5_120	460-197387-4	Water
5	SP-48P	460-197387-5	Water
5MS	SP-48PMS	460-197387-5MS	Water
5MSD	SP-48PMSD	460-197387-5MSD	Water
6	SP-48	460-197387-6	Water
7	SP-B	460-197387-7	Water

A Data Usability Summary Review was performed on the analytical data for seven water samples collected on November 21, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the Environmental Protection Agency (USEPA) Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions.

Specific method references are as follows:

Analysis	*Method References*
SVOCs by SIM (1,4-Dioxane)	USEPA SW-846 Method 8270D SIM

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning

- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes. There were no qualifications.

Semivolatile Organic Compounds by SIM (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days and analyzed within 40 days for water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	SP-48P ug/L	SP-B ug/L	RPD	Qualifier
None	ND	ND	-	-

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1

SDG No.:

Client Sample ID: ML-1_40 Lab Sample ID: 460-197387-1

Matrix: Water Lab File ID: C5236.D

Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 09:04

Extract. Method: 3510C Date Extracted: 11/25/2019 09:35

Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 03:37

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	38		10-150

MT 1/28/20

2

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1
SDG No.:
Client Sample ID: ML-1_80 Lab Sample ID: 460-197387-2
Matrix: Water Lab File ID: C5237.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 09:33
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 03:57
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	41		10-150

MT 1/20/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1
SDG No.:
Client Sample ID: ML-5_60 Lab Sample ID: 460-197387-3
Matrix: Water Lab File ID: C5238.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 10:24
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 04:16
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	47		10-150

MT 1/30/20

4

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1
SDG No.:
Client Sample ID: ML-5_120 Lab Sample ID: 460-197387-4
Matrix: Water Lab File ID: C5239.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 11:11
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 04:35
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.64		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	37		10-150

MT 1/28/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1
SDG No.:
Client Sample ID: SP-48P Lab Sample ID: 460-197387-5
Matrix: Water Lab File ID: C5233.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 12:40
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 02:39
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	39		10-150

MT 1/20/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1
SDG No.:
Client Sample ID: SP-48 Lab Sample ID: 460-197387-6
Matrix: Water Lab File ID: C5240.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 14:08
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 04:55
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	7.4		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	45		10-150

MT 1/10/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197387-1
SDG No.:
Client Sample ID: SP-B Lab Sample ID: 460-197387-7
Matrix: Water Lab File ID: C5241.D
Analysis Method: 8270D SIM ID Date Collected: 11/21/2019 00:00
Extract. Method: 3510C Date Extracted: 11/25/2019 09:35
Sample wt/vol: 250(mL) Date Analyzed: 11/26/2019 05:14
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658262 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	38		10-150

MT 1/28/20

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 460-197585-1
Laboratory: Eurofins Test America, Edison, New Jersey
Site: DEC-Speonk185, Speonk, New York
Date: January 28, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SP-1	460-197585-1	Water
2	SP-5	460-197585-2	Water
2MS	SP-5MS	460-197585-2MS	Water
2MSD	SP-5MSD	460-197585-2MSD	Water
3	SP-63C	460-197585-3	Water
4	SP-53	460-197585-4	Water
5	SP-50M	460-197585-5	Water
6	SP-52	460-197585-6	Water
7	SP-A	460-197585-7	Water

A Data Usability Summary Review was performed on the analytical data for seven water samples collected on November 22, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the Environmental Protection Agency (USEPA) Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions.

Specific method references are as follows:

Analysis	*Method References*
SVOCs by SIM (1,4-Dioxane)	USEPA SW-846 Method 8270D SIM

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning

- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes. There were no qualifications.

Semivolatile Organic Compounds by SIM (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days and analyzed within 40 days for water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	SP-5 ug/L	SP-A ug/L	RPD	Qualifier
None	ND	ND	-	-

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1

SDG No.:

Client Sample ID: SP-1 Lab Sample ID: 460-197585-1

Matrix: Water Lab File ID: C5285.D

Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 08:47

Extract. Method: 3510C Date Extracted: 11/27/2019 15:35

Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 11:07

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	36		10-150

MT 1/28/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1
SDG No.:
Client Sample ID: SP-5 Lab Sample ID: 460-197585-2
Matrix: Water Lab File ID: C5284.D
Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 10:05
Extract. Method: 3510C Date Extracted: 11/27/2019 15:35
Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 10:48
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	36		10-150

MT 1/20/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1
SDG No.:
Client Sample ID: SP-63C Lab Sample ID: 460-197585-3
Matrix: Water Lab File ID: C5286.D
Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 10:59
Extract. Method: 3510C Date Extracted: 11/27/2019 15:35
Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 11:26
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	36		10-150

MT 1/20/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1
SDG No.:
Client Sample ID: SP-53 Lab Sample ID: 460-197585-4
Matrix: Water Lab File ID: C5287.D
Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 11:50
Extract. Method: 3510C Date Extracted: 11/27/2019 15:35
Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 11:45
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	33		10-150

MT 1/29/20

5

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1
SDG No.:
Client Sample ID: SP-50M Lab Sample ID: 460-197585-5
Matrix: Water Lab File ID: C5288.D
Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 13:09
Extract. Method: 3510C Date Extracted: 11/27/2019 15:35
Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 12:04
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.18	J	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	21		10-150

MT 1/10/20

6

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1
SDG No.:
Client Sample ID: SP-52 Lab Sample ID: 460-197585-6
Matrix: Water Lab File ID: C5289.D
Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 14:10
Extract. Method: 3510C Date Extracted: 11/27/2019 15:35
Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 12:24
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	42		10-150

MT 1/28/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197585-1
SDG No.:
Client Sample ID: SP-A Lab Sample ID: 460-197585-7
Matrix: Water Lab File ID: C5290.D
Analysis Method: 8270D SIM ID Date Collected: 11/22/2019 00:00
Extract. Method: 3510C Date Extracted: 11/27/2019 15:35
Sample wt/vol: 250(mL) Date Analyzed: 11/29/2019 12:43
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 658999 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	35		10-150

MT 1/30/20

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SPEONK SOLVENT PLUME, SPEONK, NEW YORK

Client: Environmental Assessment & Remediations, Patchogue, New York
SDG: 460-197760-1
Laboratory: Eurofins Test America, Edison, New Jersey
Site: DEC-Speonk185, Speonk, New York
Date: January 28, 2020

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SP-32	460-197760-1	Water
2	SP-18D	460-197760-2	Water
3	SP-18S	460-197760-3	Water
4	SP-22P	460-197760-4	Water
5	SP-22S	460-197760-5	Water
6	SP-30	460-197760-6	Water
7	SP-62	460-197760-7	Water

A Data Usability Summary Review was performed on the analytical data for seven water samples collected on November 26, 2019 by Environmental Assessment & Remediations at the DEC-Speonk185 site in Speonk, New York. The samples were analyzed under the Environmental Protection Agency (USEPA) Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions.

Specific method references are as follows:

Analysis	*Method References*
SVOCs by SIM (1,4-Dioxane)	USEPA SW-846 Method 8270D SIM

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries

- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes. There were no qualifications.

Semivolatile Organic Compounds by SIM (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days and analyzed within 40 days for water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/4/20

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1

SDG No.:

Client Sample ID: SP-32 Lab Sample ID: 460-197760-1

Matrix: Water Lab File ID: C5313.D

Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 08:22

Extract. Method: 3510C Date Extracted: 11/30/2019 07:59

Sample wt/vol: 250(mL) Date Analyzed: 11/30/2019 23:25

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.094	J	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	49		10-150

MT 1/10/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1
SDG No.:
Client Sample ID: SP-18D Lab Sample ID: 460-197760-2
Matrix: Water Lab File ID: C5314.D
Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 08:57
Extract. Method: 3510C Date Extracted: 11/30/2019 07:59
Sample wt/vol: 250(mL) Date Analyzed: 11/30/2019 23:45
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	56		10-150

MT 1/10/20

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1
SDG No.:
Client Sample ID: SP-18S Lab Sample ID: 460-197760-3
Matrix: Water Lab File ID: C5315.D
Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 09:33
Extract. Method: 3510C Date Extracted: 11/30/2019 07:59
Sample wt/vol: 250(mL) Date Analyzed: 12/01/2019 00:04
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	52		10-150

MT 1/10/20

4

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1
SDG No.:
Client Sample ID: SP-22P Lab Sample ID: 460-197760-4
Matrix: Water Lab File ID: C5316.D
Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 10:29
Extract. Method: 3510C Date Extracted: 11/30/2019 07:59
Sample wt/vol: 250(mL) Date Analyzed: 12/01/2019 00:23
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	6.5		0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	48		10-150

MT 1/10/20

5

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1
SDG No.:
Client Sample ID: SP-22S Lab Sample ID: 460-197760-5
Matrix: Water Lab File ID: C5317.D
Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 11:07
Extract. Method: 3510C Date Extracted: 11/30/2019 07:59
Sample wt/vol: 250(mL) Date Analyzed: 12/01/2019 00:43
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	50		10-150

MT 1/20/20

6

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1
SDG No.:
Client Sample ID: SP-30 Lab Sample ID: 460-197760-6
Matrix: Water Lab File ID: C5318.D
Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 12:40
Extract. Method: 3510C Date Extracted: 11/30/2019 07:59
Sample wt/vol: 250(mL) Date Analyzed: 12/01/2019 01:02
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	52		10-150

MT 1/10/20

7

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-197760-1
SDG No.:
Client Sample ID: SP-62 Lab Sample ID: 460-197760-7
Matrix: Water Lab File ID: C5319.D
Analysis Method: 8270D SIM ID Date Collected: 11/26/2019 13:50
Extract. Method: 3510C Date Extracted: 11/30/2019 07:59
Sample wt/vol: 250(mL) Date Analyzed: 12/01/2019 01:22
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 659299 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.016

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	47		10-150

MT 1/20/20

APPENDIX B – GROUNDWATER SAMPLING LABORATORY ANALYTICAL RESULTS – FIELD BLANK AND EQUIPMENT BLANKS

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Groundwater Sampling Laboratory Analytical Results - Equipment Blank and Field Blank
November 21, 2019
TestAmerica Laboratories, Inc., EPA Method 537
PFAS (ng/L)

Location	Depth	PFOS	PFOA	Combined PFOA & PFOS	N-MeFOSAA	N-EtFOSAA	PFBS	PFBA	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNA	FOSA	PFPeA	PFTA/PFTeDA	PFTriA/PFTrDA	PFUA/PFUdA	8:2 FTS	6:2 FTS
ML-1_40	39-40	**2.24**	**5.4**	**7.64**	<17.90	<17.90	1.45 J	**1.69 J**	<1.79	<1.79	<1.79	<1.79	1.25 J	**1.1 J**	**3.19**	0.57 J	<8.94	1.79 U	<1.79	<1.79	<1.79	<17.90	<17.90
ML-1_80	79-80	**1.5 J**	**3.74**	**5.24**	<17.20	<17.20	<1.72	**1.5 J**	<1.72	<1.72	<1.72	<1.72	**1.14 J**	**1.3 J**	**1.71 J**	<1.72	<8.61	1.72 U	<1.72	<1.72	<1.72	<17.20	<17.20
ML-5_60	59-60	**2.5**	**4.54**	**7.04**	<17.80	<17.80	1.56 J	**1.95**	<1.78	<1.78	<1.78	<1.78	1.4 J	**2**	**2.87**	0.3 J	<8.90	2.24 U	<1.78	<1.78	<1.78	<17.80	<17.80
ML-5_120	119-120	**3.08**	**2.55**	**5.63**	<17.70	<17.70	**0.66 J**	**1.74 J**	<1.77	<1.77	<1.77	<1.77	**1.04 J**	**1.47 J**	**1.93**	0.58 J	<8.87	2.04 U	<1.77	<1.77	<1.77	<17.70	<17.70
SP-48P	74.12-75.12	**2.76**	**2.98**	**5.74**	<18	<18	**0.5 J**	**1.71 J**	<1.80	<1.80	<1.80	<1.80	**1.11 J**	**1.03 J**	**1.23 J**	0.52 J	<8.99	1.80 U	<1.80	<1.80	<1.80	<18	<18
SP-48	121.13-122.13	**2.61**	**2.02**	**4.63**	<17.80	<17.80	0.84 J	**9.26**	<1.78	<1.78	<1.78	<1.78	1.36 J	**1.22 J**	1.35 J	0.43 J	<8.89	1.78 U	<1.78	<1.78	<1.78	<17.80	<17.80
SSP_EQUIPMENTBLANK_20191119		<1.63	<3.26	<4.89	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<8.15	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<16.30	<16.30
SSP_FIELD BLANK_20191119		<1.63	<3.26	<4.89	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<8.16	<1.63	<1.63	<1.63	<1.63	<1.63	<1.63	<16.30	<16.30
USEPA Health Advisory Level		**70**	**70**	**70**	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv

Indicates equipment blank
Indicates detection in equipment blank
nv - Analyzed chemicals with no established value
As per the DUSR, any results qualified (U) due to blank contamination may be qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.
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Note:
PFOS - Perfluorooctanesulfonic Acid
PFOA - Perfluorooctanoic Acid
N-MeFOSAA - N-methyl perfluorooctanesulfonamidoacetic acid
N-EtFOSAA - N-ethyl perfluorooctanesulfonamidoacetic acid
PFBS - Perfluorobutanesulfonic Acid
PFBA - Perfluorobutyric Acid
PFDS - Perfluorodecanesulfonic acid
PFHpS - Perfluoroheptane Sulfonate
PFHpA - Perfluoroheptanoic Acid
PFHxS - Perfluorohexanesulfonic Acid
PFHxA - Perfluorohexanoic Acid
PFNA - Perfluorononanoic Acid
FOSA - Perfluorooctane Sulfonamide
PFDA - Perfluorodecanoic Acid
PFDoA - Perfluorododecanoic Acid
PFPeA - Perfluoropentanoic Acid
PFTA/PFTeDA - Perfluorotetradecanoic Acid
PFTriA/PFTrDA - Perfluorotridecanoic Acid
PFUA/PFUdA - Perfluoroundecanoic Acid
8:2 FTS - SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE
6:2 FTS - SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE

Speonk Solvent Plume
North Phillips Ave.
Speonk, NY
Site # 152185

Groundwater Sampling Laboratory Analytical Results - Equipment Blank and Field Blank
November 22, 2019
TestAmerica Laboratories, Inc., EPA Method 537
PFAS (ng/L)

Location	Depth	PFOS	PFOA	Combined PFOA & PFOS	N-MeFOSAA	N-EtFOSAA	PFBS	PFBA	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNA	FOSA	PFPeA	PFTA/PFTeDA	PFTriA/PFTrDA	PFUA/PFUdA	8:2 FTS	6:2 FTS
SP-1	80.88-81.88	**1.83**	**2.87**	**4.7**	<17.90	<17.90	**0.48 J**	1.79 U	<1.79	<1.79	<1.79	<1.79	**0.83 J**	**0.76 J**	**1.41 J**	**0.47 J**	<8.96	**1.59 J**	<1.79	<1.79	<1.79	<17.90	<17.90
SP-5A	120	<1.75	**6.34**	**6.34**	<17.50	<17.50	**0.44 J**	1.75 U	<1.75	<1.75	<1.75	<1.75	**0.8 J**	**0.97 J**	**1.01 J**	<1.75	<8.76	**0.97 J**	<1.75	<1.75	<1.75	<17.50	<17.50
SP-50M	85.51-86.51	<1.77	**91.1**	**91.1**	<17.70	<17.70	<1.77	4.11 U	<1.77	<1.77	<1.77	<1.77	**3.48**	<1.77	**2.64**	<1.77	<8.87	**2.21**	<1.77	<1.77	<1.77	<17.70	<17.70
SP-52	74-75	<1.81	<1.81	**3.62**	<18.10	<18.10	<1.81	1.81 U	<1.81	<1.81	<1.81	<1.81	<1.81	<1.81	<1.81	<1.81	<9.07	<1.81	<1.81	<1.81	<1.81	<18.10	<18.10
SP-53	39.8-40.8	**7.5**	**1.23 J**	**8.73**	<18	<18	**0.59 J**	1.84 U	<1.80	<1.80	<1.80	<1.80	<1.80	**1.26 J**	**1.6 J**	0.34 J	<8.99	**2.43**	<1.80	<1.80	<1.80	<18	<18
SP-63C	36.86-37.86	**1.64 J**	**2.1**	**3.74**	<17.90	<17.90	**5.62**	1.79 U	<1.79	<1.79	<1.79	<1.79	<1.79	**1.58 J**	**1.06 J**	0.32 J	<8.93	**1.17 J**	<1.79	<1.79	<1.79	<17.90	<17.90
SSP_EQUIPMENTBLANK_20191122		<1.64	<3.28	<4.92	<1.64	**0.85 J**	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<8.19	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<16.40	<16.40
SSP_FIELD BLANK_20191122		<1.64	<3.28	<4.92	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<8.19	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<16.40	<16.40
USEPA Health Advisory Level		**70**	**70**	**70**	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv

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