NEW YORK STATE | Department of Environmental Conservation

Syosset Landfill

RADIOLOGICAL AND EMERGING CONTAMINANT SAMPLING SUMMARY AND ASSESSMENT

Andrew M. Cuomo, Governor | Basil Seggos, Commissioner

Syosset Landfill
Radiological and Emerging Contaminant Sampling Summary and Assessment

Purpose

The Syosset Landfill was recently evaluated as part of New York State's ongoing efforts under the State Superfund and solid waste programs to determine the nature and extent of emerging contaminants and potential impacts from these contaminants on drinking water. Using Clean Water Infrastructure Act funding established for this purpose, the New York State Department of Environmental Conservation (NYSDEC) is sampling former landfills and superfund sites throughout the state. NYSDEC has surveyed more than 2,500 locations for potential emerging contaminants. Sites are prioritized for evaluation and actions are taken to mitigate potential public health and environmental concerns if issues are identified from the sampling. These actions can include changes to the existing remedial systems at sites, off-site investigations of public and private water supplies and actions to provide clean drinking water, if necessary.

In addition to sampling for per- and polyfluoroalkyl substances and 1,4-dioxane, sampling was conducted to screen the landfill for potential leaching of radiological materials to address public concerns, given the previously proposed redevelopment plans for areas on and near the landfill property.

Site History and Background

The Syosset Landfill, which is approximately 38 acres, operated between 1933 and 1975, accepting residential, commercial, industrial and demolition waste up to 1967. After 1967, only industrial wastes and sludges were accepted until the site's closure in 1975. In 1983 the site was placed on the USEPA's National Priorities List. The Town of Oyster Bay subsequently entered into an Administrative Order on Consent with USEPA in 1986 to undertake a Remedial Investigation/Feasibility Study.

In 1990, USEPA issued a Record of Decision (ROD) for Operable Unit No. 1 (OU1) which consisted of closure, capping, landfill gas control, maintenance of the perimeter fence, long-term monitoring and land use restrictions. OU1 is defined as source control of the Landfill proper, consisting of waste, soil, air and leachate which may impact groundwater.

In 1996, based upon limited groundwater contamination and a determination that no significant threat to human health and the environment existed, USEPA issued a No Further Action Record of Decision for Operable Unit No. 2 (OU2). OU2 refers to off-site groundwater.

In 2004, the Town of Oyster Bay filed Restrictive Covenants on the landfill property which prohibits any activities which could impact the integrity of the landfill cap. In 2005, the site was removed from USEPA's National Priorities List.

In 2015, the site was reclassified to a class 4 site (site properly closed - requires continued management) on NYS's Registry of Inactive Hazardous Waste Disposal Sites. The site remains in site management and currently hosts the Town of Oyster Bay animal shelter, the Town of Oyster Bay Department of Public Works office complex, and sanitation yard. Uses also include vehicle parking, maintenance, composting and DPW materials storage.

The Town of Oyster Bay performs groundwater sampling every five quarters as part of their post-closure monitoring requirements.

Site Geology and Hydrogeology

The Syosset Landfill is underlain by more than 1,000 feet of unconsolidated deposits of sand, silt, gravel and clay which rest on a bedrock surface. These unconsolidated deposits are separated into three formations: the Upper Glacial Aquifer (top), the Magothy Formation (middle) and the Raritan Formation (bottom). Beneath the site, the Upper Glacial Aquifer (UGA) is unsaturated (that is, there is no extractable water). The UGA is found between 60 and 100 feet below the surface in the vicinity of the site; borings associated with the site indicate the Magothy Aquifer begins about 130 feet below ground surface. The aquifer of interest at the site is the Magothy, which may extend up to 630 feet below the surface. Groundwater beneath the site flows to the north or north-northwest.

Groundwater Well Sampling

On October 10-29, 2018 groundwater samples were collected by Environmental Assessment and Remediation from 10 site related wells. Two other wells, SY-9 and PK-10I, could not be sampled. SY-9 was dry and PK-10I could not be located. See Figure 1 for monitoring well locations.

Samples from all wells were submitted to an NYSDEC standby contracted laboratory (Test America, Inc.) for analysis of dissolved concentrations of; radium-226 via EPA Method 903.1, radium-228 via EPA Method 904, isotopic uranium (Iso-U) via DOE-HASL-300 U-02, and isotopic thorium via DOE-HASL- 300 Th-01.

Samples submitted for analysis of dissolved contaminants (filtered) were filtered by the analyzing laboratory. All samples for analysis of radiological parameters were collected in laboratory-provided bottle sets containing no preservative.

A subset of samples was also submitted for analysis of perfluorinated compounds (21 compound list) via EPA Method 537 (modified), and 1,4-dioxane via EPA Method 8270 SIM.

Additional details related to the sampling event can be found in the attached letter report from EAR, dated February 5, 2019.

Results

Groundwater samples were collected from monitoring wells SY-1, SY-1D, SY-2D, SY-2R, SY-3, SY-3X, SY-3D, SY-8, PK-10D, RB-11l and RB-11D, and analyzed for radium uranium, and thorium.

Radium-226 (EPA 903.1) and Radium-228 (EPA 904)

The radium drinking water standard established by the US EPA and adopted by the NYS Department of Health is 5 pCi/L of combined radium-226 and radium-228. Radium-226 and radium-228 were present in all groundwater samples. The combined concentrations of radium-226 and radium-228 ranged from 0.924 to 10.94 pCi/L. Groundwater collected at three of the 11 wells sampled contained combined radium concentrations above the NYSDOH maximum contaminant level (MCL) of 5 pCi/L. Specifically, SY-1, SY-2R and SY-3D, located along the northern boundary of the site, contained combined concentrations of 10.94 pCi/L, 5.81 pCi/L and 6.14 pCi/L, respectively. The seven remaining monitoring wells had lower combined radium concentrations, ranging from 0.9 to 3.2 pCi/L. The off-site wells PK-10d, RB-11I and RB-11D contained lower combined concentrations ranging from of 0.924 to 2.087 pCi/ liter.

Isotopic Uranium and Thorium

All groundwater samples were analyzed for isotopic uranium (U) and isotopic thorium (Th). Other than Th-232 most results for U-234, U-235, U-238, Th-228 and Th-230 were below the Method Detection Concentration (MDC). Th-232 was present at low concentrations in most monitoring wells ranging from 0.17 pCi/L at SY-2D to 0.55 pCi/L at SY-8.

Emerging Contaminants (PFAS and 1,4-dioxane)

Groundwater samples from monitoring wells SY-1, SY-1D, SY-2D, SY-3D PK-10, RB-11i and RB-11D were analyzed for perfluorinated compounds *via* EPA Method 537(modified) and for 1,4-dioxane *via* EPA Method 8270SIM. Based on the recommendation from the State's Drinking Water Quality Council, the New York State Department of Health has proposed a drinking water MCL of 10 parts per trillion (ppt) for both PFOS and PFOA, and 1 part per billion (ppb) for 1,4-dioxane.

Of the 21 PFAS compounds analyzed via EPA Method 537, only perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are considered hazardous substances in New York State. PFOS was detected in three wells (RB-11I, SY-2D, and SY-3D) slightly above the proposed MCL. The levels of PFOS in those wells ranged from 12.3 ppt to 14.4 ppt. PFOA was detected in five wells (RB-11I, SY-1, SY-1D, SY-2D and SY-3D) above the proposed MCL, ranging from 10.6 ppt to 76.6 ppt.

1,4-Dioxane was detected in monitoring wells SY-1D and SY-3D slightly above the proposed MCL of 1ppb. The levels detected in those wells were 1.9 ppb and 1.1 ppb, respectively.

Discussion

Radiological Results

Radium is a natural element that can also be found in the environment from man-made sources that results from radioactive decay of naturally occurring uranium and thorium. Naturally occurring radium is generally present in all groundwater as isotopes radium-226 and radium-228. While radium-226 was used for various industrial purposes for decades, there were no similar, major industrial uses for radium-228. As such, only Ra-226 is typically considered to be a potential human-sourced pollutant.

Three of the eleven monitoring wells contain concentrations of combined Ra-226 and Ra-228 above the 5 pCi/L drinking water standard. These results are consistent with groundwater quality data reported by the Nassau and Suffolk County Departments of Health, water suppliers, the US Geological Survey, and from other investigations that show combined radium values are routinely detected and sometimes exceed the 5 pCi/l MCL at many groundwater well locations throughout Long Island. These results are similar to values reported in a USGS report on water quality[1] which evaluated the occurrence of radium in groundwater. It notes that... “Weathered, quartz-rich sediments in the Northern Atlantic Coastal Plain surficial aquifer system have little capacity to buffer the pH of naturally acidic rainfall and soil water. Consequently, groundwater in this aquifer system typically is acidic; the median pH of groundwater from wells in aquifer studies was about 5. These conditions are optimal for dissolving or desorbing radium from aquifer sediments and contribute to the elevated concentrations of radium in parts of the aquifer system”.

The detections of radium found at the Syosset Landfill are likely due to the presence of naturally occurring isotopes of radium.

[1] “Water Quality in Principal Aquifers of the United States 1991-2010”, USGS Circular 1360, 2014

While some of the results exceed the combined radium MCL, there are no identified pathways to human exposure. Drinking water in the area is supplied by the Jericho Water District, a public water system. No one is using site groundwater for drinking, bathing or laundry, the usual exposure pathways from groundwater. The closest Jericho Water District well is slightly greater than one mile to the west of the site and is located in an upgradient/side gradient location to the site (as noted above, groundwater from the site flows north or northwest). Like all water supplies in NYS and Long Island, the Jericho system is extensively and routinely tested for contaminants, including radium and emerging contaminants. There are no known private water supply wells in the area.

At 115 feet below grade, site groundwater is not a contributor to indoor air radon concentrations, which results primarily from radium in soils beneath and surrounding structures. The Syosset Central School District has tested for radon in the nearby South Grove Elementary School. Results showed levels of radon below the EPA guidance value of 4 pCi/l in indoor air.

Finally, there are no records that identify radium-226 in wastes disposed of within the landfill, and the analytical results are consistent with radium levels observed elsewhere on Long Island.

Emerging Contaminant Results

Five of the monitoring wells that were sampled had levels of emerging contaminants at levels slightly above the proposed MCLs for the specific compounds. As with the radium results, there is no known exposure pathway for the contaminants in the groundwater. Due to the depth of groundwater at the site, it is unlikely any receptors would come into contact with the groundwater. The contaminated groundwater is not being used for drinking as the area is served by the Jericho Water District, a public water system, and there are no public supply wells located within one mile of the site.

Next Steps

The Syosset Landfill has been closed for decades and continued management includes cover maintenance, landfill gas control, land use restrictions and long-term groundwater monitoring. Future groundwater monitoring will include the addition of PFAS parameters, as needed. This monitoring will continue under EPA and DEC oversight.

Figures

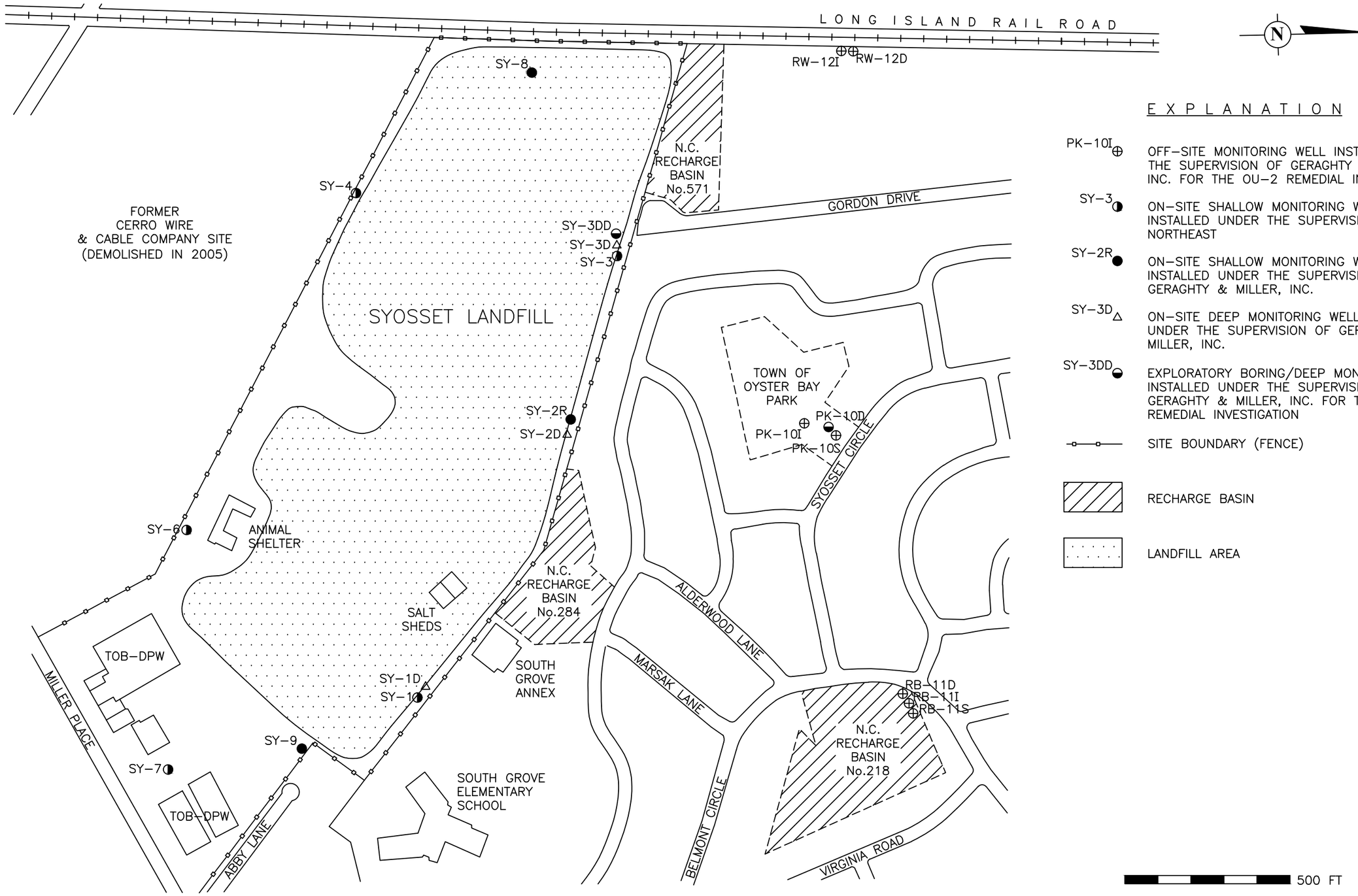


FIGURE 1

GROUNDWATER MONITORING WELL LOCATION PLAN
SYOSSET LANDFILL, SYOSSET, NY

130011 - Syosset Landfill - 1/2 Mile Radius Search

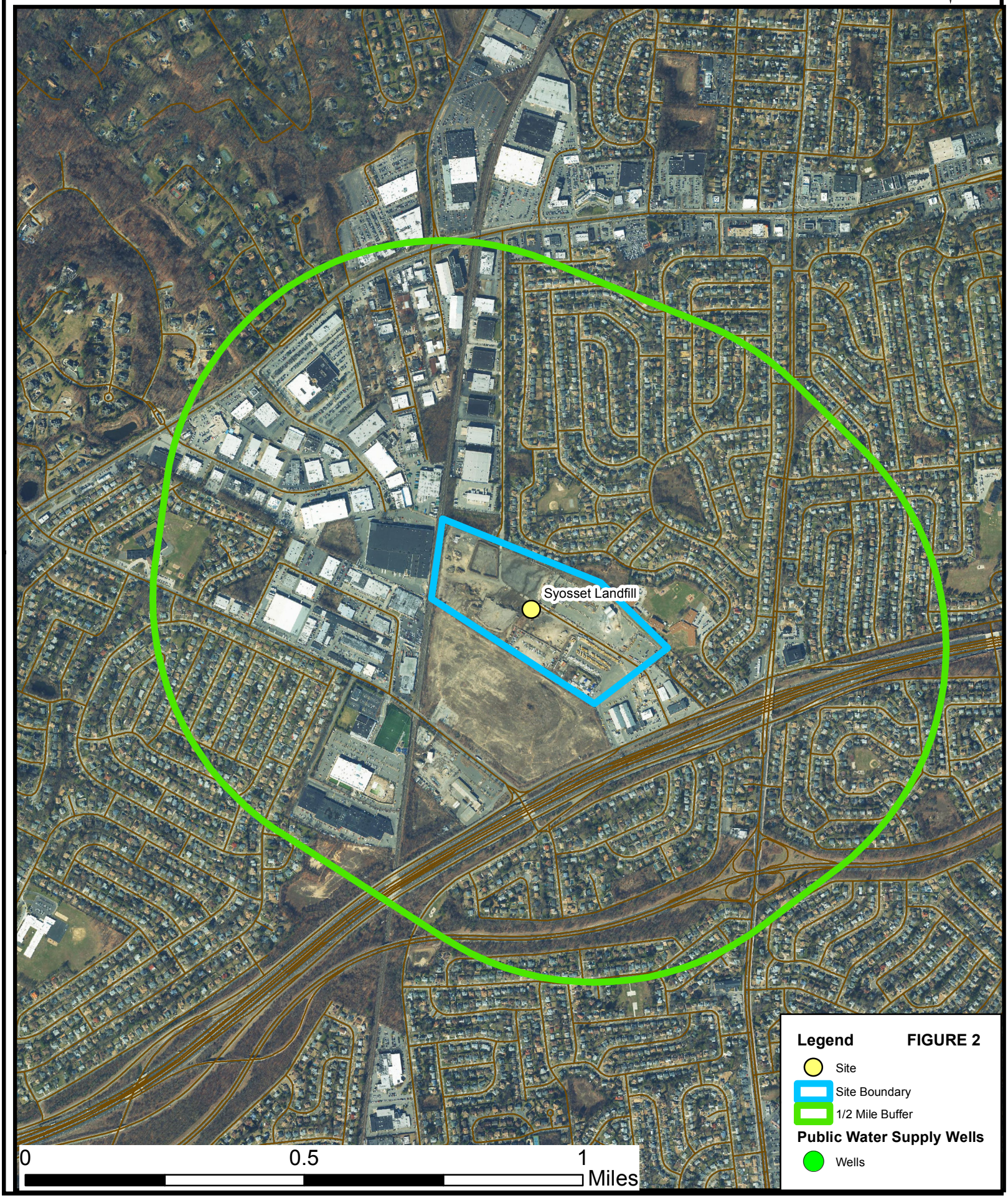
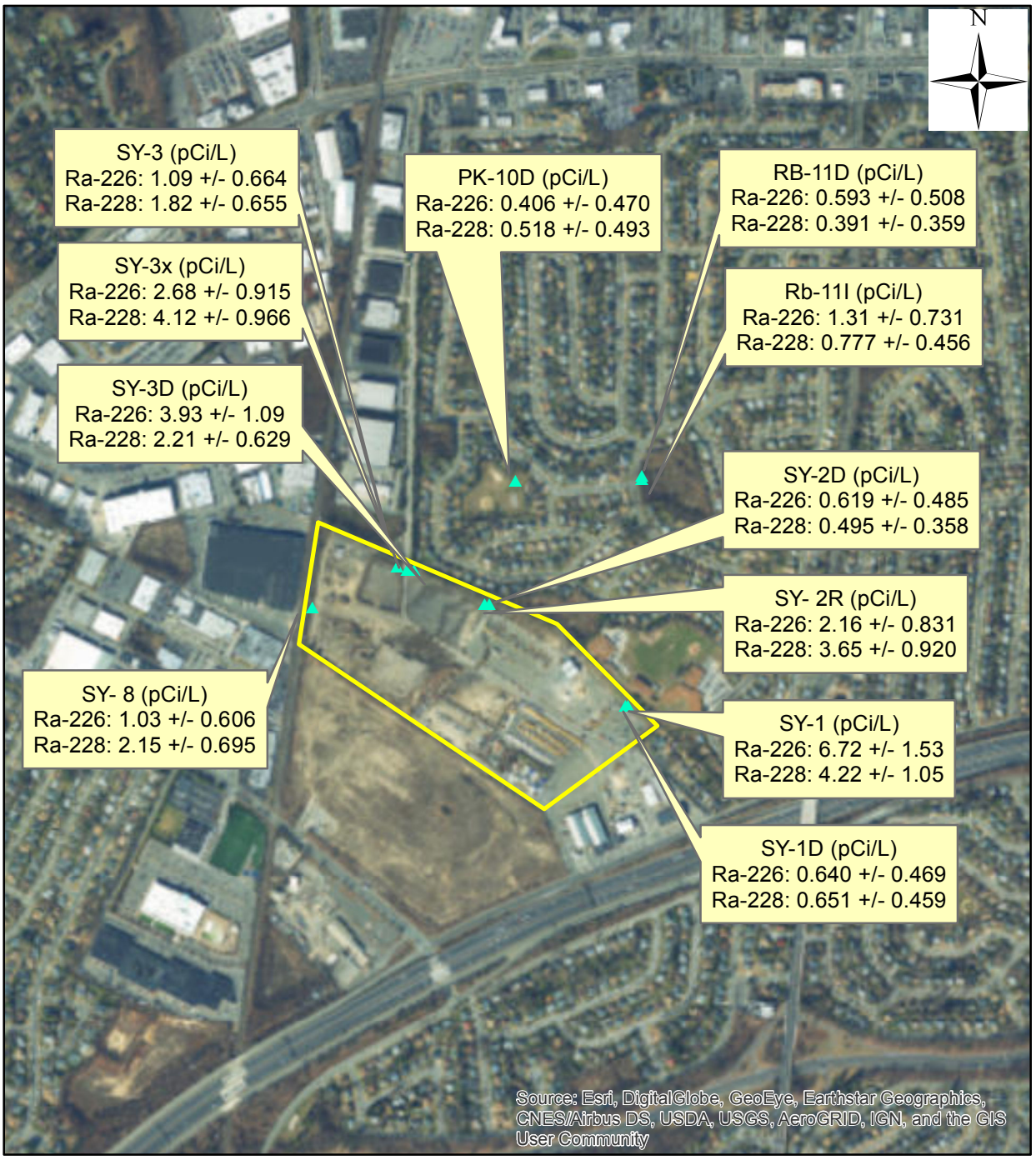


Figure 3: Radium-226 and Radium-228 Detections



Syosset Landfill
Site No. 130011
Syosset, NY

0 0.125 0.25 0.5 Miles

NYSDOH MCL
Total Radium: 5 pCi/L

Sampling Date: 10/3/2018 - 10/29/2018

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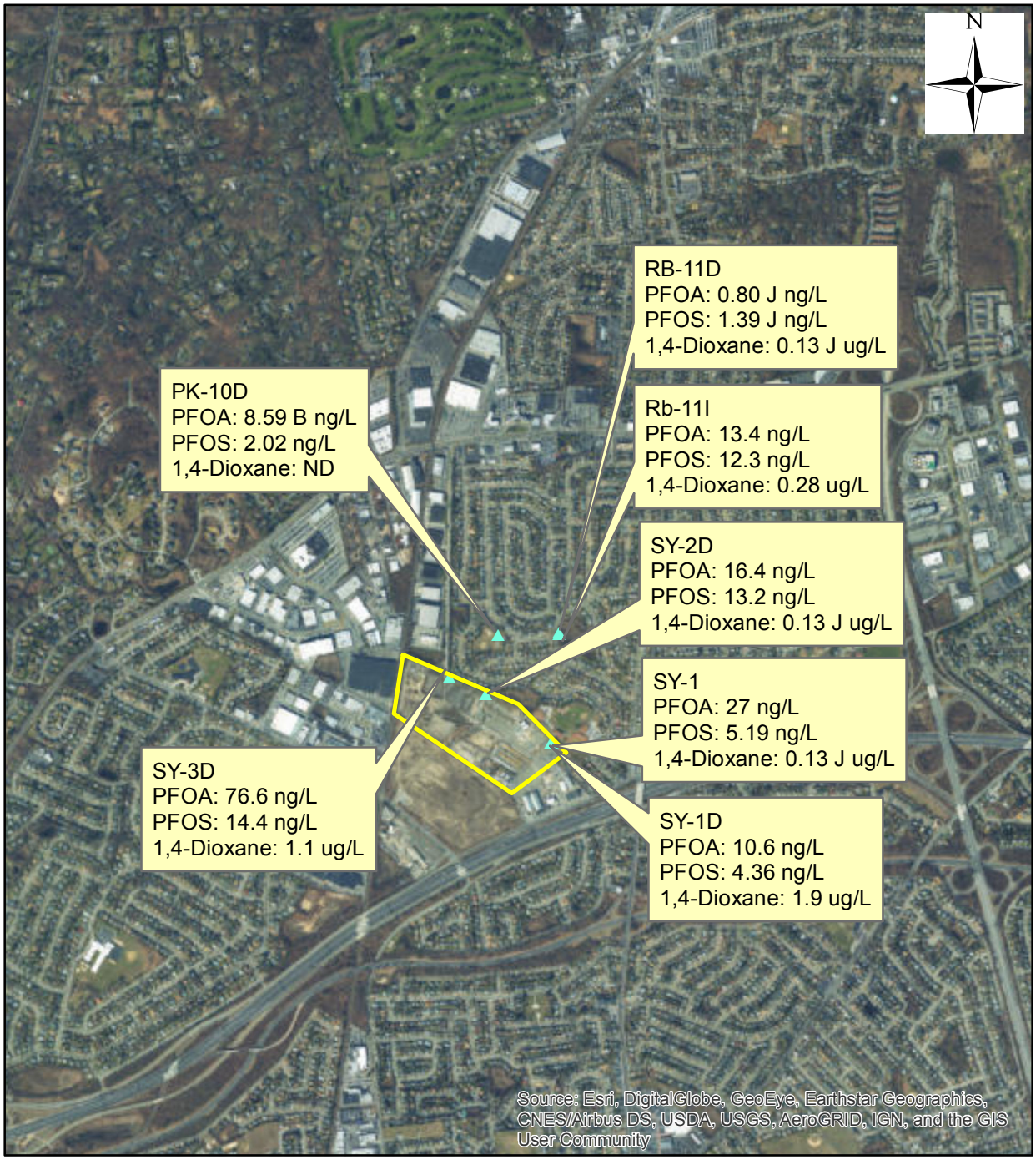
Figure 4: PFOA, PFOS, and 1,4-Dioxane Detections



EPA Health Advisory Level
Total PFOA + PFOS: 70 ng/L

NYSDOH Recommended MCL
PFOA: 10 ng/L
PFAS: 10 ng/L
1,4-Dioxane: 1 ug/L

J: Estimated value
B: Analyte found in associated method blank
ND: Not detected

Sampling Date: 10/3/2018 - 10/29/2018

Syosset Landfill
Site No. 130011
Syosset, NY

0 0.25 0.5 1 Miles

NEW YORK STATE Department of Environmental Conservation

Tables

Table 1
Syosset Landfill
Site No. 130011
Radiological
Results

Monitoring Well		SY-1	SY-1D	SY-2D	SY-2R	SY-3	SY-3x	SY-3D	SY-8	PK-10D	RB-11I	RB-11D
Sample ID		SY-1	SY-1D	SY-2D	SY-2R	SY-3	SY-3X	SY-3D	SY-8	PK-10D	RB-11I	RB-11D
TA Sample ID		460-167169-1	460-168371-1	460-167167-1	460-166481-1	460-167171-1	460-167373-2	460-167373-1	460-167846-1	460-167168-1	460-167845-2	460-167845-1
Pace Sample ID		30268172001	30269879001	30267250001	30267150001	30267814001	30268692001	30268692001	30269361001	30268437001	30269171002	30269171001
Date Collected		10/11/2018	10/29/2018	10/4/2018	10/3/2018	10/9/2018	10/10/2018	10/10/2018	10/23/2019	10/15/2018	10/22/2018	10/22/2018
Units		(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
Method/Parameter												
Ra-226 USEPA method 903.1		6.72 ±1.53	0.640 ±0.469	0.619 ±0.485	2.16±0.831	1.09 ±0.664	2.68 ±0.915	3.93 ±1.09	1.03 ±0.606	0.406 ±0.470	1.31 ±0.731	0.593 ±0.508
Ra-228 USEPA Method 904		4.22 ±1.05	0.651 ±0.459	0.495 ±0.358	3.65±0.920	1.82 ±0.655	4.12 ±0.966	2.21 ±0.629	2.15 ±0.695	0.518 ±0.493	0.777 ±0.456	0.391 ±0.359
DOE HASL 300 Thorium												
Thorium-228		0.146 ±0.117	0.060 ±0.152	0.008 ±0.115	0.248±0.146	0.056 ±0.099	0.089 ±0.135	0.113 ±0.160	0.089 ±0.157	-0.010 ±0.122	0.159 ±0.164	0.106 ±0.142
Thorium-230		0.300 ±0.142	0.378 ±0.214	0.170 ±0.100	0.241±0.129	0.356 ±0.145	0.195 ±0.143	0.245 ±0.172	0.547 ±0.249	0.408 ±0.205	0.156 ±0.132	0.184 ±0.135
Thorium-232		0.045 ±0.060	-0.007 ±0.104	0.000 ±0.051	0.033±0.055	0.077 ±0.065	0.000 ±0.093	0.081 ±0.096	0.061 ±0.089	0.018 ±0.087	0.043 ±0.089	0.024 ±0.086
DOE HASL 300 Uranium												
Uranium-234		0.054 ±0.074	0.063 ±0.101	0.065 ±0.061	0.058+-0.064	0.035 ±0.054	0.128 ±0.114	0.163 ±0.140	0.171 ±0.145	0.153 ±0.112	0.133 ±0.118	0.159 ±0.130
Uranium-235		0.052 ±0.071	0.032 ±116	0.008 ±0.060	0.023 ±0.078	0.009 ±0.070	-0.015 ±0.109	0.021 ±0.120	0.086 ±0.112	0.097 ±0.104	0.029 ±0.103	0.064 ±0.115
Uranium-238		0.042 ±0.054	0.049 ±0.089	0.012 ±0.046	0.042 ±0.060	0.035 ±0.054	0.064 ±0.084	0.087 ±0.103	0.102 ±0.107	0.056 ±0.073	0.017 ±0.079	0.031 ±0.088

TABLE 2
Syosset Landfill
Site No. 130011
Poly And Perfluorinated Compounds
Results

Monitoring Well		SY-1	SY-1D	SY-2D	SY-3D	PK-10D	RB-11I	RB-11D
Sample ID		SY-1	SY-1D	SY-2D	SY-3D	PK-10D	RB-11I	RB-11D
Test America Sample ID		200-45694-3	200-45957-1	200-45589-1	200-45694-1	200-45727-1	200-45836-2	200-45836-1
Date Collected		10/11/2018	10/29/2018	10/4/2018	10/10/2018	10/15/2018	10/22/2018	10/22/2018
Units		ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Method/Parameter								
537 (modified)								
Perfluorobutanesulfonic Acid (PFBS)		1.69 J	1.37	2.84	1.97	0.65 J	0.88 J	<1.81
Perfluorobutyric Acid (PFBA)		21.9	71.8	13.5	52.3	56.5	63.4	<1.81
Perfluorodecane Sulfonic Acid		<1.78	<1.09	<1.81	<1.73	<1.77	<1.81	<1.81
Perfluorodecanoic Acid (PFDA)		7.35 J	3.27	8.03	4.56	3.03	1.23 J	<1.81
Perfluorododecanoic Acid (PFDoA)		2.01 J	5.51	0.65 J	0.43 J	<1.77	2.83	<1.81
Perfluoroheptane Sulfonate (PFHpS)		<1.78	0.59 J	<1.81	<1.73	<1.77	2.22	<1.81
Perfluoroheptanoic Acid (PFHpA)		23.7	58.9	19.8	39.3	41.8	17.3	<1.81
Perfluorohexanesulfonic Acid (PFHxS)		0.94 J	1.68	2.04	4.37	0.24 J	1.76 J	<1.81
Perfluorohexanoic Acid (PFHxA)		26.3	69.6	14.4	43.2	50	39.7	0.24 J
Perfluorononanoic Acid (PFNA)		3.86	1.15	8.93	5.4	2.44	2.6	<1.81
Perfluorooctane Sulfonamide (FOSA)		<1.78	<1.09	<1.81	<1.73	<1.77	0.67 J	<1.81
Perfluorooctanesulfonic Acid (PFOS)		5.19	4.36	13.2	14.4	2.02	12.3	1.39 J
Perfluorooctanoic Acid (PFOA)		27	10.6	16.4	76.6	8.59 B	13.4	0.80 J
Perfluoropentanoic Acid (PFPeA)		29	75.4	12.2	45.2	48.8	59.4	<1.81
Perfluorotetradecanoic Acid (PFTeA)		2.73	4.42	<1.81	<1.73	<1.77	<1.81	<1.81
Perfluorotridecanoic Acid (PFTriA)		3.24	5.05	<1.81	<1.73	0.25 J	<1.81	<1.81
Perfluoroundecanoic Acid (PFUnA)		1.08 J B	4.92	2.99	0.37 J	<1.77	4.36	<1.81
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)		<17.80	<10.90	<18.10	<17.30	<17.70	<18.10	<18.10
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)		<17.80	1.54 J	<18.10	2.60 J	<17.70	<18.10	<18.10
2-(N-methyl perfluorooctanesulfonamido) acetic acid		<17.80	<10.90	<18.10	<17.30	<17.70	<18.10	<18.10
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine		<17.80	<10.90	<18.10	<17.30	<17.70	31.7	0.86 J
Calculated Combined PFOA & PFOS Method Total		32.19	14.96	29.6	91	10.61	25.7	2.19
Total PFAS concentration		178.82	335.12	143.93	381.7	224.93	279.45	5.48

J - estimated value

TABLE 3

Syosset Landfill
Site No. 130011
1,4 Dioxane
Results

Monitoring Well		SY-1	SY-1D	SY-2D	SY-3D	PK-10D	RB-11I	RB-11D
Sample ID		SY-1	SY-1D	SY-2D	SY-3D	PK-10D	RB-11I	RB-11D
Test America Sample ID		460-166672-1	460-168119-1	460-167556-1	460-166702-1	460-166952-1	460-167674-2	460-167674-1
Date Collected		10/11/2018	10/29/2018	10/23/2018	10/10/2018	10/15/2018	10/22/2018	10/22/2018
units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Method/Parameter								
SW 846 8270 SIM								
1,4 Dioxane		0.13 J	1.9	0.13 J	1.1	<0.20 U	0.28	0.13 J

J - estimated value

U - not detected

Syosset Landfill Investigation Summary Report
(EAR, February 5, 2019)

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ENVIRONMENTAL
ASSESSMENT &
REMEDIATIONS

February 5, 2019

Eric Obrecht
New York State Department of Environmental Conservation
625 Broadway, 12th floor
Albany, NY 12233

RE: Syosset Landfill, Miller Place & Robbins Lane, Oyster Bay; Site No. 130011 – Investigation Summary Report

Dear Mr. Obrecht:

The following summarizes the groundwater sampling activities conducted at the above referenced location as per New York State Department of Environmental Conservation (NYSDEC) Standby Contractor Authorization Form dated 2/21/2018 (Callout ID: 135008). A site location map is provided as Figure 1.

The field work was performed in accordance with the 9/28/18 *Groundwater Sampling Work Plan* prepared by Environmental Assessment & Remediations (EAR)[1].

Groundwater Sampling

On October 10-29, 2019, groundwater samples were collected by Environmental Assessment & Remediations (EAR) from a total of 10 site wells. Samples were not collected from SY-9 as this well was found dry. Samples were not collected from PK-10i as this well could not be located. A monitoring well location plan is provided as Figure 2.

Wells SY-1d, SY-8, RB-11i, and RB-11d were initially found containing deployed water table depression pumps. At the request of the NYSDEC, and with permission from the Town of Oyster Bay (TOB), EAR personnel removed the pumps from these wells on October 19, 2018, such that these wells could be sampled. As directed by the TOB, the pumps were left at each well location for pickup at a later date by TOB.

Groundwater samples were collected utilizing intertia pumps (Waterra Hydrolift or equivalent) and HDPE tubing. A new length of HDPE tubing was utilized at each well. Prior to sample

[1] SY-10 appears to have been misidentified in NYSDEC's initial sampling directive. Correct well ID should be SY-1.

collection, depth-to-water and total well depths were gauged to the nearest 0.01 foot using a water level meter and recorded. Each monitoring well was then purged of at least one standing well volume, then screened for pH, temperature, and conductivity using a handheld water quality meter (YSI 556 or equivalent) until stabilization was reached. Dissolved oxygen concentrations, and oxidation reduction potential (ORP) were recorded as well. Groundwater sampling data sheets are provided as Appendix A.

Once stabilization of the above water quality parameters was achieved, samples were collected in appropriate laboratory-provided sample containers and placed in a cooler with ice to maintain a temperature of 4-degrees Celsius. Samples collected for analysis of PFC's were placed in dedicated coolers until such time as they were relinquished to the laboratory.

Samples were submitted to an NYSDEC standby contracted laboratory (Test America, Inc.) for analysis of Ra-226 via EPA Method 903.1 (filtered), Ra-228 via EPA Method 904 (filtered), isotopic uranium (Iso-U) via DOE-HASL-300 U-02 (filtered), isotopic thorium via DOE-HASL-300 Th-01 (filtered), and gamma emitting radionuclides via EPA Method 901.1 (filtered). A subset of samples were also submitted for analysis of perfluorinated compounds[2] (21 compound list) via EPA Method 537 (modified), and 1,4-dioxane via EPA Method 8270 SIM. Samples submitted for analysis of dissolved contaminants (filtered) were filtered by the analyzing laboratory. All samples for analysis of radiological parameters were collected in laboratory-provided bottle sets containing no preservative.

All samples for radiological parameters were submitted for a 15-day turnaround time with NYSDEC ASP Category B deliverables requested. All samples for PFC and 1,4-dioxane analyses were submitted for a 10-day turnaround time with NYSDEC ASP Category B deliverables requested.

Analytical results are summarized in Tables 1-5. Field screening results are summarized in Table 6. Field blank analytical results and a blind duplicate relative percent difference analysis for PFCs and 1,4-dioxane are provided as Table 7. Due to file sizes, laboratory analytical reports will be submitted under separate cover. All NYSDEC ASP Category B deliverables are under review for completeness and compliance. Data usability summary reports (DUSR) will be generated and submitted to NYSDEC under separate cover.

Purge water and decontamination rinsate generated during the sampling activities was containerized in a 55-gallon drum and staged onsite (at a pre-determined & approved location) for transport and disposal. All non-dedicated sampling tools were decontaminated between each sample location using a Liquinox™ and a PFC-free water wash followed by a PFC-free water rinse.

[2] RB-11i was sampled as an alternate to PK-10i as PK-10i could not be located. SY-1 was sampled for emerging contaminants as an alternate to a well location which was inaccessible earlier in the sampling event.

Perfluorinated compound (PFC) cross-contamination prevention protocols were strictly observed in the field. Such protocols limit the materials, equipment, field accessories, and clothing permissible on days when sampling for PFC's is conducted. Decontamination of non-dedicated equipment as well as the collection of equipment and/or field blanks was conducted using laboratory provided PFC-free deionized water. All field personnel engaged in the sampling effort were properly trained in PFC sampling protocols.

Purge Water/Rinsate Management

Purge water and decontamination rinsates generated during field activities were containerized in one (1) 55-gallon drum. The drum was sealed, properly labeled, and staged onsite in an area designated by facility/Town of Oyster Bay staff.

Prior to demobilizing from the site, a sample was collected from the waste drum for characterization. The sample was collected using an HDPE bailer and submitted to a NYSDEC standby contracted laboratory (Test America, Inc.) for analysis of volatile organic compounds via EPA Method 8260, semi-volatile organic compounds via EPA Method 8270, and TCLP RCRA Metals.

The sample was submitted for a 10-day turnaround time with NYSDEC ASP Category A deliverables requested. The laboratory analytical report for the waste sample is included as Appendix B. EAR is presently coordinating transportation and offsite disposal via a NYSDEC response contractor.

If you have any questions regarding the information presented in this report, please feel free to contact me at 631.241.8741 or via email at IHofmann@enviro-asmnt.com

Sincerely,

Ian Hofmann
Project Manager

Cc:
Ancona, R. (EAR)
Lawrence, J. (EAR)
Maloney, K. (NYSDEC)

Tables

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results - October 2018 (pCi/L)
Pace Analytical
Methods: E903.1, E904.0

Location	Date Collected	Time Collected	Radium-226	Radium-228
PK-10D	10/15/2018	12:32 PM	**0.41***	**0.52***
RB-11D	10/22/2018	1:24 PM	**0.59***	**0.39***
RB-11I	10/22/2018	3:00 PM	**1.31**	**0.78***
SY-1	10/11/2018	1:14 PM	**6.72**	**4.22**
SY-1D	10/29/2018	1:09 PM	**0.64***	**0.65***
SY-2D	10/4/2018	11:16 AM	**0.62**	**0.5***
SY-2R	10/3/2018	2:12 PM	**2.16**	**3.65**
SY-3	10/9/2018	1:58 PM	**1.09**	**1.82**
SY-3D	10/10/2018	2:08 PM	**3.93**	**2.21**
SY-8	10/23/2018	1:35 PM	**1.03**	**2.15**

Notes:
n/a - No activity.
*** - Activity value is less than minimum detectable concentration (MDC) value.**
Refer to laboratory analytical reports for uncertainty values.

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results (pCi/L)
Pace Analytical
Methods: EML HASL 300

Location	Date Collected	Time Collected	Thorium	Thorium-228	Thorium-230	Uranium	Uranium-234	Uranium-235
PK-10D	10/15/2018	12:32 PM	**0.02***	**-0.01***	**0.41**	**0.06***	**0.15**	**0.1***
RB-11D	10/22/2018	1:24 PM	**0.02***	**0.11***	**0.18**	**0.03***	**0.16**	**0.06***
RB-11I	10/22/2018	3:00 PM	**0.04***	**0.16***	**0.16***	**0.02***	**0.13***	**0.03***
SY-1	10/11/2018	1:14 PM	**0.05**	**0.15***	**0.3**	**0.04***	**0.05***	**0.05***
SY-1D	10/29/2018	1:09 PM	**-0.01***	**0.06***	**0.38**	**0.05***	**0.06***	**0.03***
SY-2D	10/4/2018	11:16 AM	n/a	**0.01***	**0.17**	**0.01***	**0.07***	**0.01***
SY-2R	10/3/2018	2:12 PM	**0.03***	**0.25**	**0.24**	**0.04***	**0.06***	**0.02***
SY-3	10/9/2018	1:58 PM	**0.08**	**0.06***	**0.36**	**0.04***	**0.04***	**0.01***
SY-3D	10/10/2018	2:08 PM	**0.08***	**0.11***	**0.25**	**0.09***	**0.16***	**0.02***
SY-8	10/23/2018	1:35 PM	**0.06***	**0.09***	**0.55**	**0.10***	**0.17***	**0.09***

Notes:
n/a - No activity.
*** - Activity value is less than minimum detectable concentration (MDC) value.**
Refer to laboratory analytical reports for uncertainty values.

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results (pCi/L)
Pace Analytical
Methods: EPA 901.1

Location	Date Collected	Time Collected	Bismuth-212	Bismuth-214	Lead-212	Lead-214	Potassium-40	Thallium-208	Thorium-234	Uranium-235
PK-10D	10/15/2018	12:32 PM	**1.4***	**1,462.70**	**12.09***	**1,569.20**	n/a	**5.1***	n/a	n/a
RB-11D	10/22/2018	1:24 PM	**-17.98***	**208.28**	**64.86**	**220.76**	n/a	n/a	n/a	**15.2***
RB-11I	10/22/2018	3:00 PM	**16.67***	**229.27**	**50.66**	**231.56**	n/a	n/a	**133.3***	**3.03***
SY-1	10/11/2018	1:14 PM	n/a	**14.39**	**1.41***	**18.56**	**22.07***	**1.89***	n/a	**7.39***
SY-1D	10/29/2018	1:09 PM	n/a	**2,109.20**	**277.79**	**2,208.50**	**117.56**	n/a	**81.74***	n/a
SY-2D	10/4/2018	11:16 AM	**41.88***	**966.18**	**241.46**	**1,020.70**	n/a	n/a	**398.69***	n/a
SY-2R	10/3/2018	2:12 PM	n/a	**221.91**	**81.57**	**226.06**	n/a	**2.68***	**152.92***	**30.67***
SY-3	10/9/2018	1:58 PM	**66.68***	**1,010**	**124.28**	**1,082.10**	**68.67**	n/a	**259.11***	**2.42***
SY-3D	10/10/2018	2:08 PM	n/a	**970.26**	**227.12**	**1,018.60**	**30.02***	**5.38***	**233.9***	**20.09***
SY-8	10/23/2018	1:35 PM	**42.66***	**181**	**43.1**	**179.00**	**14.85***	n/a	**118.58***	n/a

Notes:
n/a - No activity.
*** - Activity value is less than minimum detectable concentration (MDC) value.**
Refer to laboratory analytical reports for uncertainty values.

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results - October 2018 (ng/L)
TestAmerica, Inc.
Methods: E537-LL

Location	PK-10D	RB-11D	RB-11i	SY-1	SY-1D	SY-2D	SY-3D
Date Collected	10/15/2018	10/22/2018	10/22/2018	10/11/2018	10/29/2018	10/4/2018	10/10/2018
Time Collected	12:32 PM	1:24 PM	3:00 PM	1:14 PM	1:09 PM	11:16 AM	2:08 PM
Perfluorobutanesulfonic Acid (PFBS)	0.65 J	<1.81	0.88 J	1.69 J	1.37	2.84	1.97
Perfluorobutyric Acid (PFBA)	56.5	<1.81	63.4	21.9	71.8	13.5	52.3
Perfluorodecane Sulfonic Acid	<1.77	<1.81	<1.81	<1.78	<1.09	<1.81	<1.73
Perfluorodecanoic Acid (PFDA)	3.03	<1.81	1.23 J	7.35 J	3.27	8.03	4.56
Perfluorododecanoic Acid (PFDoA)	<1.77	<1.81	2.83	2.01 J	5.51	0.65 J	0.43 J
Perfluoroheptane Sulfonate (PFHpS)	<1.77	<1.81	2.22	<1.78	0.59 J	<1.81	<1.73
Perfluoroheptanoic Acid (PFHpA)	41.8	<1.81	17.3	23.7	58.9	19.8	39.3
Perfluorohexanesulfonic Acid (PFHxS)	0.24 J	<1.81	1.76 J	0.94 J	1.68	2.04	4.37
Perfluorohexanoic Acid (PFHxA)	50	0.24 J	39.7	26.3	69.6	14.4	43.2
Perfluorononanoic Acid (PFNA)	2.44	<1.81	2.6	3.86	1.15	8.93	5.4
Perfluorooctane Sulfonamide (FOSA)	<1.77	<1.81	0.67 J	<1.78	<1.09	<1.81	<1.73
Perfluorooctanesulfonic Acid (PFOS)	2.02	1.39 J	12.3	5.19	4.36	13.2	14.4
Perfluorooctanoic Acid (PFOA)	8.59	0.80 J	13.4	27	10.6	16.4	76.6
Perfluoropentanoic Acid (PFPeA)	48.8	<1.81	59.4	29	75.4	12.2	45.2
Perfluorotetradecanoic Acid (PFTeA)	<1.77	<1.81	<1.81	2.73	4.42	<1.81	<1.73
Perfluorotridecanoic Acid (PFTriA)	0.25 J	<1.81	<1.81	3.24	5.05	<1.81	<1.73
Perfluoroundecanoic Acid (PFUnA)	<1.77	<1.81	4.36	1.08 J	4.92	2.99	0.37 J
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	<17.70	<18.10	<18.10	<17.80	<10.90	<18.10	<17.30
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	<17.70	<18.10	<18.10	<17.80	1.54 J	<18.10	2.60 J
2-(N-methyl perfluorooctanesulfonamido) acetic acid	<17.70	<18.10	<18.10	<17.80	<10.90	<18.10	<17.30
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	<17.70	0.86 J	31.7	<17.80	<10.90	<18.10	<17.30
Calculated							
Combined PFOA & PFOS	10.61	2.19	25.7	32.19	14.96	29.6	91
Method Total	224.93	5.48	279.45	178.82	335.12	143.93	381.7

Notes:
J - Indicates an estimated value below laboratory reporting limits

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results - October 2018 (ug/L)
TestAmerica, Inc.
Methods: SW8270DSIM

Location	Date Collected	Time Collected	1,4-Dioxane
PK-10D	10/15/2018	12:32 PM	<0.20
RB-11D	10/22/2018	1:24 PM	**0.13 J**
RB-11I	10/22/2018	3:00 PM	**0.28**
SY-1	10/11/2018	1:14 PM	**0.13 J**
SY-1D	10/29/2018	1:09 PM	**1.9**
SY-2D	10/23/2018	8:43 AM	**0.13 J**
SY-3D	10/10/2018	2:08 PM	**1.1**

Notes:
J - Indicates an estimated value below laboratory reporting limits

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Groundwater Analytical Results - October 2018
EAR Field Screening

Location	Date Collected	Time Collected	Dissolved Oxygen *mg/l*	Temperature *°C*	pH -	ORP (Oxidation Reduction Potential) *mV*	Conductivity *us/cm*
SY-1	10/11/2018	1:14 PM	**4.91**	**21.47**	**13.22***	**220.40**	**1920**
SY-1d	10/29/2018	1:09 PM	**0.98**	**15.69**	**6.23**	**129.80**	**645**
SY-2R	10/3/2018	2:12 PM	**3.60**	**16.01**	**5.93**	**37.20**	**1713**
SY-2d	10/4/2018	11:16 AM	**2.39**	**16.95**	**6.60**	**-22.50**	**1303**
SY-3	10/9/2018	1:58 PM	**1.05**	**20.74**	**7.13**	**-87.90**	**2048**
SY-3d	10/10/2018	2:00 PM	**3.35**	**21.66**	**10.34***	**-13.40**	**1970**
SY-8	10/23/2018	1:35 PM	**3.31**	**18.48**	**6.75**	**26.30**	**1300**
PK-10d	10/15/2018	12:32 PM	-	-	-	-	-
RB-11i	10/22/2018	3:00 PM	**3.73**	**14.22**	**6.75**	**113.20**	**253**
RB-11d	10/22/2018	1:24 PM	**7.43**	**13.94**	**6.77**	**135.90**	**45**

Notes:
No readings collected at PK-10d due to difficulty extracting water from well. Samples were collected directly from tubing.
*** - On 10/10/18, 10/11/18, instrument did not calibrate for pH within acceptable range.**

Syosset Landfill
Miller Place and Robbins Lane
Oyster Bay, NY
Spill # 130011

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

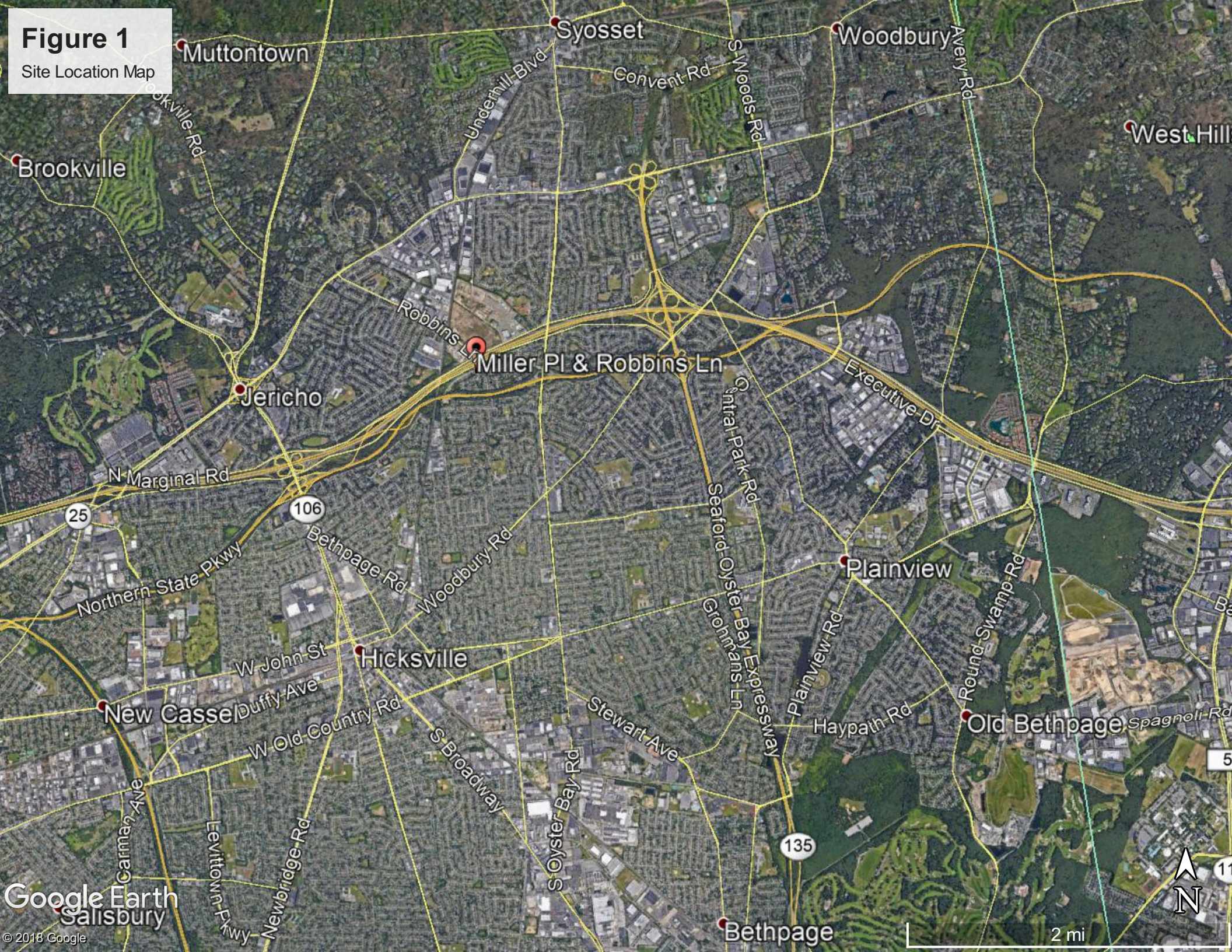
Groundwater Analytical Results - October 2018 (ng/L)
TestAmerica, Inc.
QAQC Summary

		Relative Percent Difference Analysis		
Location	FIELD BLANK	Parent Sample	Duplicate Sample	Relative Percent Difference
Date Collected	10/11/2018			
Time Collected	2:05 PM	SY-3D	SY-3X	
Combined PFOA & PFOS	<3.18	91	89.6	1.6%
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	<15.90	<17.30	<16.70	0.0%
Perfluorobutanesulfonic Acid (PFBS)	<1.59	1.97	2.77	33.8%
Perfluorobutyric Acid (PFBA)	<1.59	52.3	65.6	22.6%
Perfluorodecane Sulfonic Acid	<1.59	<1.73	<1.67	0.0%
Perfluorodecanoic Acid (PFDA)	<1.59	4.56	4.59	0.7%
Perfluorododecanoic Acid (PFDoA)	0.38 J	0.43 J	0.30 J	n/a
Perfluoroheptane Sulfonate (PFHpS)	<1.59	<1.73	<1.67	0.0%
Perfluoroheptanoic Acid (PFHpA)	<1.59	39.3	40.7	3.5%
Perfluorohexanesulfonic Acid (PFHxS)	<1.59	4.37	3.22	30.3%
Perfluorohexanoic Acid (PFHxA)	<1.59	43.2	43.7	1.2%
Perfluorononanoic Acid (PFNA)	<1.59	5.4	5.82	7.5%
Perfluorooctane Sulfonamide (FOSA)	<1.59	<1.73	<1.67	0.0%
Perfluorooctanesulfonic Acid (PFOS)	<1.59	14.4	15	4.1%
Perfluorooctanoic Acid (PFOA)	<1.59	76.6	74.6	2.6%
Perfluoropentanoic Acid (PFPeA)	<1.59	45.2	47.8	5.6%
Perfluorotetradecanoic Acid (PFTeA)	<1.59	<1.73	<1.67	0.0%
Perfluorotridecanoic Acid (PFTriA)	<1.59	<1.73	<1.67	0.0%
Perfluoroundecanoic Acid (PFUnA)	0.29 J	0.37 J	0.40 J	n/a
2-(N-methyl perfluorooctanesulfonamido) acetic acid	<15.90	<17.30	<16.70	0.0%
Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	<15.90	<17.30	<16.70	0.0%
Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	<15.90	2.60 J	1.67 J	n/a
1,4-dioxane (ug/L)	0.13 J	1.1	1.1	0.0%

Notes:
J - Indicates an estimated value below laboratory reporting limits.
n/a - Not applicable

Figures

Figure 1
Site Location Map



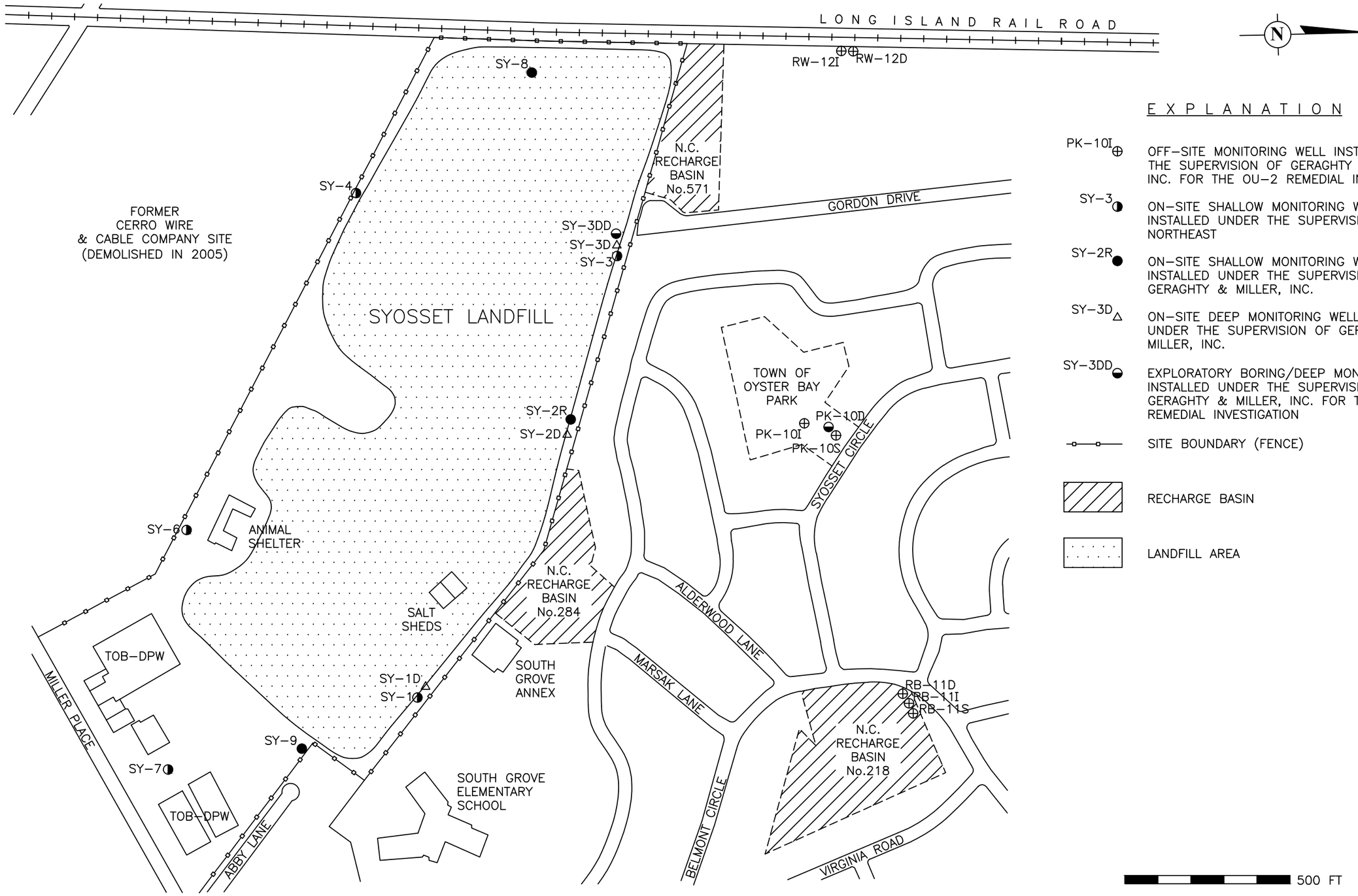


FIGURE 1

GROUNDWATER MONITORING WELL LOCATION PLAN
SYOSSET LANDFILL, SYOSSET, NY

Appendix A: Groundwater Sampling Sheets

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC - OYSTER BAY

Date: 10/3/18

Techs: JPL / JS

Start Time: 0630

End Time:

Equipment:

[check units on YSI and confirm that parameter is in the correct units]

WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	DO (mg/L)	Temp. (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
SY-9	4	124.98	DRY	–	–	–	–	3.60	–	–	–	–	DRY
SY-2R	4	130.00	113.35	16.65	11.04	12.50	1412	[illegible]	16.01	5.93	37.2	1713	Duct TAPE COVERING WELL
SY-2D													

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error.

PLEASE CONTACT THE PMs IF THERE IS A PROBLEM. THIS DATA IS IMPORTANT AND INCORRECT DATA IS WORSE THAN NO DATA. WE REALLY APPRECIATE YOUR WORK TO KEEP E.A.R. A TOP COMPANY IN THE FIELD

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC-OYSTERBAY-SYOSSETLANDFILL Start Time: 0645 Equipment:

Date: 10/4/18 End Time:

Techs: JPL/JS

WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	[check units on YSI and confirm that parameter is in the correct units] DO (mg/L)	Temp (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
SY-2d	3	135.00	113.57	21.43	7.83	7.90	1116	2.39	16.95	6.60	-22.5	1303	
~~SY-3~~	~~2~~	~~148.96~~	~~116.40~~	~~32.56~~	~~5.70~~								
~~SY-3d~~	~~3~~		~~117.47~~										
~~SY-8~~													
~~SY-10d~~													

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

21.43' = 256" → 1808.64 in3 → gal

$= \pi R^2 = 3.14(@1.5^2) = 3.14 \times 2.25 = 7.065$

29.658 29941 liters → 7.83 gal

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error.

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Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC- OYSTERBAY - SYOSSETLANDFILL

Date: 10/9/18

Techs: JB / SS

Start Time: 0630

End Time: 1600

Equipment:

								[check units on YSI and confirm that parameter is in the correct units]					
WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	DO (mg/L)	Temp (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
SY-3	2	148.98	116.36	32.62	5.71	6.00	1358	1.05	20.74	7.13	-87.9	2.048	
~~SY-3d~~	~~3~~	>200.00	117.51	~~82.49~~									

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

$V = \pi R^2$

$V = \pi\ 1.5^2$

$V = \pi\ 2.25$

$V = 7.065$

0.1161

$in^3 = 1$

$1 = gal$

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

14.44

54.69

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error.

PLEASE CONTACT THE PMs IF THERE IS A PROBLEM. THIS DATA IS IMPORTANT AND INCORRECT DATA IS WORSE THAN NO DATA. WE REALLY APPRECIATE YOUR WORK TO KEEP E.A.R. A TOP COMPANY IN THE FIELD

[as of 06/05/17]

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC - OYSTER BAY SYOSSET LANDFILL

Start Time: 0615

Equipment:

Date: 10/10/18

End Time:

Techs: JB/JS

								[check units on YSI and confirm that parameter is in the correct units]					
WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	DO (mg/L)	Temp. (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
→ SY-3d	3	207.20	117.54	89.66	16.14		14:08	3.35	21.66	10.34	-13.4	1970	
[redacted]													
[redacted]													
[redacted]													
[redacted]													
RB-11D	4	150.00	114.42										
RB-11I	4	149.49	115.09										
PK-10D	4	157.78	112.16										
PK-10I	-	-	-										Could not locate

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

3" multiplier

[redacted]

.18 | well 1.43 4 well

2" 15.49

4" 59.44

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error

PLEASE CONTACT THE PMs IF THERE IS A PROBLEM. THIS DATA IS IMPORTANT AND INCORRECT DATA IS WORSE THAN NO DATA. WE REALLY APPRECIATE YOUR WORK TO KEEP E.A.R. A TOP COMPANY IN THE FIELD

→ SY-3d collected duplicate sample & labelled as SY-3X,

[as of 12/14/2017]

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC-OYSTERBAY SYOSSET LANDFILL

Date: 10/11/18

Techs: JB/JS

Start Time: 0630

End Time: 1615

Equipment:

WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	[check units on YSI and confirm that parameter is in the correct units] DO (mg/L)	Temp (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
SY-1D	4	139.88	118.91	20.97	13.90								
SY-1	1.5	136.80	116.67	20.13	2.11	2.00	1314	4.91	21.47	13.22	220.4	1920	

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error.

Field Blank sampled at 1405.

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[as of 12/14/2017]

Test America - Koger
646-341-3457

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC - OYSTERBAY SYOSSET LANDFILL
Date: 10/15/18
Techs: JS / EM

Start Time: 0630
End Time: 1545

Equipment:

								[check units on YSI and confirm that parameter is in the correct units]					
WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	DO (mg/L)	Temp (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
PK-10D	4	149.82	111.95	37.87	25.11	–	1232	–	–	–	–	–	NO READINGS,
													TROUBLE
													GETTING
													WATER UP/
													TO PURGE.
													SAMPLES
													COLLECTED
													STRAIGHT
													FROM
													TUBING AS
													PER PM.

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error.

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[as of 12/14/2017]

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC-OYSTERBAY SYOSSET-LANDFILL

Date: 10/22/18

Techs: MF/JS

Start Time: 0630

End Time: 1700

Equipment:

WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	[check units on YSI and confirm that parameter is in the correct units] DO (mg/L)	Temp. (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
RB-11D	4	150.00	114.42	35.58	23.59	0.25	1324	7.43	13.94	6.77	135.9	45.	
RB-11I	4	149.49	115.09	34.40	22.81	6.00	1500	3.73	14.22	6.75	113.2	253	

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

*Record DO & ORP but **DO NOT** use for stability*

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error

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[as of 12/14/2017]

Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC-OYSTERBAY SYOSSET LANDFILL

Date: 10/23/18

Techs: BCC/JS

Start Time: 0630

End Time: 1530

Equipment:

								[check units on YSI and confirm that parameter is in the correct units]					
WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	DO (mg/L)	Temp. (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
SY-2D	-	-	-	-	-	-	0843	→ RESAMPLED 1,4 dioxane ONLY for this point.					
SY-8	4	145.08	118.98	26.10	17.30	6.00	1335	3.31	18.48	6.75	24.3	1,300	

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

If readings are not in this range please try to recalibrate (except for temp, which cannot be calibrated). If they remain out of range, please do not write the value on the sheet - it is an equipment error.

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Groundwater Sampling Sheet: Stabilization Purge Method

Site: DEC-OYSTERBAYSYOSSETLANDFILL

Date: 10/29/14

Techs: RC/SB

Start Time: 06:30

End Time:

Equipment:

WELL ID	Well Size (inches)	Total Well Depth (ft.)	Depth to Water (ft.)	Length of Column (ft.)	One Standing Water Well Volume (gal.)	Total Gallons Purged (gal.)	Time Sampled (hh:mm)	[check units on YSI and confirm that parameter is in the correct units] DO (mg/L)	Temp (°C)	pH	ORP (mV)	Specific Conductance (uS/cm)	NOTES
SY-1D	4	205.0	118.59	86.41	57.29	20.00	13:09	0.98	15.69	6.23	129.8	645	

Well Size (inches)	0.5	0.75	1	1.5	2	4	6	8
Multiplier based on 4 well volume	0.06	0.11	0.18	0.42	0.7	2.65	6	10.4
Multiplier based on 1 well volume	0.015	0.0275	0.045	0.105	0.175	0.663	1.5	2.6

Purge a minimum of 1 well volume & then wait for stabilization

Tolerance for stability:

Specific Conductance (3%)

temperature (3%)

pH +/- 0.1 units

Record DO & ORP but DO NOT use for stability

Guidelines for Field Screening Values:

pH range = 5 - 9

Temperature range = 10 - 19 (except for VERY warm days - please try to keep purge container cool/shaded area)

DO range = less than 12 (unless very close to a sparge well)

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[as of 12/14/2017]

Appendix B: Laboratory Analytical Report: Waste Sample

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 460-168121-1

Job Description: DEC-OYSTERBAY-SYOSSETTLANDFILL

Contract Number: C100700

For:
New York State D.E.C.
625 Broadway
Division of Environmental Remediation
Albany, NY 12233-7014

Attention: Mr. Eric R. Obrecht

Approved for release.
Thomas A Chupela
Project Management Assistant I
11/8/2018 2:59 PM

Designee for
Melissa Haas, Project Manager I
777 New Durham Road, Edison, NJ, 08817
(203)944-1310
melissa.haas@testamericainc.com
11/08/2018

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LAO00132

Job Number: 460-168121-1

Job Description: DEC-OYSTERBAY-SYOSSETTLANDFILL

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Approved for release.
Thomas A Chupela
Project Management Assistant I
11/8/2018 2:59 PM

Designee for
Melissa Haas

CASE NARRATIVE

Client: New York State D.E.C.

Project: DEC-OYSTERBAY-SYOSSETTLANDFILL

Report Number: 460-168121-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The sample was received on 10/29/2018 8:00 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. No container total recorded on the COC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample purge water (460-168121-1) was analyzed for Volatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 11/07/2018.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS)

Sample purge water (460-168121-1) was analyzed for semivolatile organic compounds (GC/MS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 11/01/2018 and analyzed on 11/02/2018.

The continuing calibration verification (CCV) associated with batch 460-565126 recovered above the upper control limit for 2-Nitrophenol, Indeno[1,2,3-cd]pyrene and Dibenz(a,h)anthracene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 460-565126/2).

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 460-565051 and analytical batch 460-565126 recovered outside control limits for the following analytes: Phenol and 2-Nitrophenol. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Refer to the QC report for details.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

TCLP METALS

Sample purge water (460-168121-1) was analyzed for TCLP metals in accordance with 6010D. The samples were leached on 11/01/2018, and prepared and analyzed on 11/02/2018.

No difficulties were encountered during the TCLP metals analysis.

All quality control parameters were within the acceptance limits.

TCLP MERCURY

Sample purge water (460-168121-1) was analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 11/01/2018, and prepared and analyzed on 11/02/2018.

No difficulties were encountered during the TCLP Hg analysis.

All quality control parameters were within the acceptance limits.

EXECUTIVE SUMMARY - Detections

Client: New York State D.E.C. Job Number: 460-168121-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
460-168121-1	**PURGE WATER**					
Methylene Chloride		3.3		1.0	ug/L	8260C
Toluene		0.51	J	1.0	ug/L	8260C
TCLP						
Barium		86.6	J	1000	ug/L	6010D

METHOD SUMMARY

Client: New York State D.E.C. Job Number: 460-168121-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL EDI	SW846 8260C	
Purge and Trap	TAL EDI		SW846 5030C
Semivolatile Organic Compounds (GC/MS)	TAL EDI	SW846 8270D	
Liquid-Liquid Extraction (Separatory Funnel)	TAL EDI		SW846 3510C
Metals (ICP)	TAL EDI	SW846 6010D	
TCLP Extraction	TAL EDI		SW846 1311
Preparation, Total Metals	TAL EDI		SW846 3010A
Mercury (CVAA)	TAL EDI	SW846 7470A	
TCLP Extraction	TAL EDI		SW846 1311
Preparation, Mercury	TAL EDI		SW846 7470A

Lab References:

TAL EDI = TestAmerica Edison

Method References:

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

METHOD / ANALYST SUMMARY

Client: New York State D.E.C. Job Number: 460-168121-1

Method	Analyst	Analyst ID
SW846 8260C	Desai, Saurab	SZD
SW846 8270D	Hamzi, Yahia A	YAH
SW846 6010D	Huang, Yixin	YZH
SW846 7470A	Sheikh, Razia B	RBS

SAMPLE SUMMARY

Client: New York State D.E.C. Job Number: 460-168121-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
460-168121-1	purge water	Water	10/29/2018 1350	10/29/2018 2000

SAMPLE RESULTS

Client: New York State D.E.C. Job Number: 460-168121-1

Client Sample ID: **purge water**

Lab Sample ID: 460-168121-1 Date Sampled: 10/29/2018 1350
Client Matrix: Water Date Received: 10/29/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P52929.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1254			Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1254				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.24	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.37	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	0.31	1.0
1,1,2-Trichloroethane	1.0	U	0.43	1.0
1,1-Dichloroethane	1.0	U	0.26	1.0
1,1-Dichloroethene	1.0	U	0.12	1.0
1,2,3-Trichlorobenzene	1.0	U	0.36	1.0
1,2,4-Trichlorobenzene	1.0	U	0.37	1.0
1,2-Dibromo-3-Chloropropane	1.0	U	0.38	1.0
1,2-Dichlorobenzene	1.0	U	0.43	1.0
1,2-Dichloroethane	1.0	U	0.43	1.0
1,2-Dichloropropane	1.0	U	0.35	1.0
1,3-Dichlorobenzene	1.0	U	0.34	1.0
1,4-Dichlorobenzene	1.0	U	0.76	1.0
1,4-Dioxane	50	U	28	50
2-Butanone (MEK)	5.0	U	1.9	5.0
2-Hexanone	5.0	U	2.9	5.0
4-Methyl-2-pentanone (MIBK)	5.0	U	2.7	5.0
Acetone	5.0	U	5.0	5.0
Benzene	1.0	U	0.43	1.0
Bromoform	1.0	U	0.54	1.0
Bromomethane	1.0	U	1.0	1.0
Carbon disulfide	1.0	U	0.16	1.0
Carbon tetrachloride	1.0	U	0.21	1.0
Chlorobenzene	1.0	U	0.38	1.0
Chlorobromomethane	1.0	U	0.41	1.0
Chlorodibromomethane	1.0	U	0.28	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.33	1.0
Chloromethane	1.0	U	0.14	1.0
cis-1,2-Dichloroethene	1.0	U	0.22	1.0
cis-1,3-Dichloropropene	1.0	U	0.46	1.0
Cyclohexane	1.0	U	0.32	1.0
Dichlorobromomethane	1.0	U	0.34	1.0
Dichlorodifluoromethane	1.0	U	0.12	1.0
Ethylbenzene	1.0	U	0.30	1.0
Ethylene Dibromide	1.0	U	0.50	1.0
Isopropylbenzene	1.0	U	0.34	1.0
Methyl acetate	5.0	U	0.31	5.0
Methyl tert-butyl ether	1.0	U	0.47	1.0
Methylcyclohexane	1.0	U	0.26	1.0
Methylene Chloride	3.3		0.32	1.0
m-Xylene & p-Xylene	1.0	U	0.30	1.0
o-Xylene	1.0	U	0.36	1.0
Styrene	1.0	U	0.42	1.0
Tetrachloroethene	1.0	U	0.25	1.0

Client: New York State D.E.C. Job Number: 460-168121-1

Client Sample ID: purge water

Lab Sample ID: 460-168121-1 Date Sampled: 10/29/2018 1350
Client Matrix: Water Date Received: 10/29/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P52929.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1254			Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1254				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Toluene	0.51	J	0.38	1.0
trans-1,2-Dichloroethene	1.0	U	0.24	1.0
trans-1,3-Dichloropropene	1.0	U	0.49	1.0
Trichloroethene	1.0	U	0.31	1.0
Trichlorofluoromethane	1.0	U	0.14	1.0
Vinyl chloride	1.0	U	0.17	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		74 - 132
4-Bromofluorobenzene	93		77 - 124
Dibromofluoromethane (Surr)	106		72 - 131
Toluene-d8 (Surr)	90		80 - 120

Client Sample ID: **purge water**

Lab Sample ID: 460-168121-1 Date Sampled: 10/29/2018 1350
Client Matrix: Water Date Received: 10/29/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Prep Method:	3510C	Prep Batch:	460-565051	Lab File ID:	M06776.D
Dilution:	1.0			Initial Weight/Volume:	245 mL
Analysis Date:	11/02/2018 0752			Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1'-Biphenyl	10	U	1.2	10
1,2,4,5-Tetrachlorobenzene	10	U	1.3	10
2,2'-oxybis[1-chloropropane]	10	U	0.64	10
2,3,4,6-Tetrachlorophenol	10	U	0.76	10
2,4,5-Trichlorophenol	10	U	0.28	10
2,4,6-Trichlorophenol	10	U	0.31	10
2,4-Dichlorophenol	10	U	0.43	10
2,4-Dimethylphenol	10	U	0.24	10
2,4-Dinitrophenol	20	U	15	20
2,4-Dinitrotoluene	2.0	U	1.0	2.0
2,6-Dinitrotoluene	2.0	U	0.40	2.0
2-Chloronaphthalene	10	U	1.2	10
2-Chlorophenol	10	U	0.38	10
2-Methylnaphthalene	10	U	1.1	10
2-Methylphenol	10	U	0.26	10
2-Nitroaniline	10	U	0.48	10
2-Nitrophenol	10	U *	0.76	10
3,3'-Dichlorobenzidine	10	U	1.5	10
3-Nitroaniline	10	U	0.98	10
4,6-Dinitro-2-methylphenol	20	U	14	20
4-Bromophenyl phenyl ether	10	U	0.76	10
4-Chloro-3-methylphenol	10	U	0.59	10
4-Chloroaniline	10	U	1.9	10
4-Chlorophenyl phenyl ether	10	U	1.3	10
4-Methylphenol	10	U	0.24	10
4-Nitroaniline	10	U	0.55	10
4-Nitrophenol	20	U	0.70	20
Acenaphthene	10	U	1.1	10
Acenaphthylene	10	U	0.84	10
Acetophenone	10	U	0.81	10
Anthracene	10	U	0.65	10
Atrazine	2.0	U	1.4	2.0
Benzaldehyde	10	U	0.60	10
Benzo[a]anthracene	1.0	U	0.60	1.0
Benzo[a]pyrene	1.0	U	0.41	1.0
Benzo[b]fluoranthene	2.0	U	1.2	2.0
Benzo[g,h,i]perylene	10	U	1.5	10
Benzo[k]fluoranthene	1.0	U	0.69	1.0
Bis(2-chloroethoxy)methane	10	U	0.24	10
Bis(2-chloroethyl)ether	1.0	U	0.30	1.0
Bis(2-ethylhexyl) phthalate	2.0	U	1.7	2.0
Butyl benzyl phthalate	10	U	0.87	10
Caprolactam	10	U	0.70	10
Carbazole	10	U	0.69	10
Chrysene	2.0	U	0.93	2.0
Dibenz(a,h)anthracene	1.0	U	0.73	1.0

Client Sample ID: **purge water**

Lab Sample ID: 460-168121-1 Date Sampled: 10/29/2018 1350
Client Matrix: Water Date Received: 10/29/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Prep Method:	3510C	Prep Batch:	460-565051	Lab File ID:	M06776.D
Dilution:	1.0			Initial Weight/Volume:	245 mL
Analysis Date:	11/02/2018 0752			Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dibenzofuran	10	U	1.1	10
Diethyl phthalate	10	U	1.0	10
Dimethyl phthalate	10	U	0.78	10
Di-n-butyl phthalate	10	U	0.86	10
Di-n-octyl phthalate	10	U	4.9	10
Fluoranthene	10	U	0.86	10
Fluorene	10	U	0.93	10
Hexachlorobenzene	1.0	U	0.40	1.0
Hexachlorobutadiene	1.0	U	0.80	1.0
Hexachlorocyclopentadiene	10	U	1.8	10
Hexachloroethane	2.0	U	1.2	2.0
Indeno[1,2,3-cd]pyrene	2.0	U	1.3	2.0
Isophorone	10	U	0.81	10
Naphthalene	10	U	1.2	10
Nitrobenzene	1.0	U	0.58	1.0
N-Nitrosodi-n-propylamine	1.0	U	0.44	1.0
N-Nitrosodiphenylamine	10	U	0.91	10
Pentachlorophenol	20	U	1.5	20
Phenanthrene	10	U	0.59	10
Phenol	10	U *	0.30	10
Pyrene	10	U	1.7	10

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	85		26 - 139
2-Fluorobiphenyl	73		45 - 107
2-Fluorophenol (Surr)	52		25 - 58
Nitrobenzene-d5 (Surr)	97		51 - 108
Phenol-d5 (Surr)	34		14 - 39
Terphenyl-d14 (Surr)	79		40 - 148

Client: New York State D.E.C. Job Number: 460-168121-1

Client Sample ID: **purge water**

Lab Sample ID: 460-168121-1 Date Sampled: 10/29/2018 1350
Client Matrix: Water Date Received: 10/29/2018 2000

6010D Metals (ICP)-TCLP

Analysis Method:	6010D	Analysis Batch:	460-565438	Instrument ID:	ICP4
Prep Method:	3010A	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	5.0	Leach Batch:	460-564998	Initial Weight/Volume:	50 mL
Analysis Date:	11/02/2018 1653			Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	11/01/2018 1300				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Arsenic	75.0	U	13.3	75.0
Barium	86.6	J	38.4	1000
Cadmium	20.0	U	1.1	20.0
Chromium	50.0	U	6.3	50.0
Lead	50.0	U	12.3	50.0
Selenium	100	U	33.0	100
Silver	50.0	U	5.4	50.0

7470A Mercury (CVAA)-TCLP

Analysis Method:	7470A	Analysis Batch:	460-565347	Instrument ID:	LEEMAN6
Prep Method:	7470A	Prep Batch:	460-565284	Lab File ID:	565282hg1.CSV
Dilution:	1.0	Leach Batch:	460-564998	Initial Weight/Volume:	30 mL
Analysis Date:	11/02/2018 1438			Final Weight/Volume:	30 mL
Prep Date:	11/02/2018 1101				
Leach Date:	11/01/2018 1300				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Mercury	0.20	U	0.12	0.20

DATA REPORTING QUALIFIERS

Client: New York State D.E.C. Job Number: 460-168121-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
GC/MS Semi VOA		
	U	Analyzed for but not detected.
	*	LCS or LCSD is outside acceptance limits.
Metals		
	U	Indicates analyzed for but not detected.
	J	Sample result is greater than the MDL but below the CRDL

QUALITY CONTROL RESULTS

Client: New York State D.E.C. Job Number: 460-168121-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:460-566399					
LCS 460-566399/5	Lab Control Sample	T	Water	8260C	
MB 460-566399/8	Method Blank	T	Water	8260C	
460-168121-1	purge water	T	Water	8260C	
460-168121-1MS	Matrix Spike	T	Water	8260C	
460-168121-1MSD	Matrix Spike Duplicate	T	Water	8260C	
GC/MS Semi VOA					
Prep Batch: 460-565051					
LCS 460-565051/2-A	Lab Control Sample	T	Water	3510C	
LCS 460-565051/4-A	Lab Control Sample	T	Water	3510C	
LCSD 460-565051/3-A	Lab Control Sample Duplicate	T	Water	3510C	
LCSD 460-565051/5-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 460-565051/1-A	Method Blank	T	Water	3510C	
460-168121-1	purge water	T	Water	3510C	
Analysis Batch:460-565126					
LCS 460-565051/2-A	Lab Control Sample	T	Water	8270D	460-565051
LCS 460-565051/4-A	Lab Control Sample	T	Water	8270D	460-565051
LCSD 460-565051/3-A	Lab Control Sample Duplicate	T	Water	8270D	460-565051
LCSD 460-565051/5-A	Lab Control Sample Duplicate	T	Water	8270D	460-565051
MB 460-565051/1-A	Method Blank	T	Water	8270D	460-565051
460-168121-1	purge water	T	Water	8270D	460-565051

Report Basis
T = Total

Report Basis
T = Total

Client: New York State D.E.C. Job Number: 460-168121-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 460-564906					
LB 460-564906/1-B	TCLP SPLPE Leachate Blank	P	Water	1311	
LB 460-564906/1-E ^5	TCLP SPLPE Leachate Blank	P	Water	1311	
460-167955-B-3-E DU	Duplicate	P	Water	1311	
460-167955-B-3-F MS	Matrix Spike	P	Water	1311	
460-168030-B-1-H DU	Duplicate	P	Water	1311	
460-168030-B-1-I MS	Matrix Spike	P	Water	1311	
Prep Batch: 460-564984					
MB 460-564984/1-A	Method Blank	T	Water	7470A	
LB 460-564906/1-B	TCLP SPLPE Leachate Blank	P	Water	7470A	460-564906
Prep Batch: 460-564998					
LB 460-564998/1-B ^5	TCLP SPLPE Leachate Blank	P	Water	1311	
LB 460-564998/1-C	TCLP SPLPE Leachate Blank	P	Water	1311	
460-168121-1	purge water	P	Water	1311	
Analysis Batch:460-565063					
MB 460-564984/1-A	Method Blank	T	Water	7470A	460-564984
LB 460-564906/1-B	TCLP SPLPE Leachate Blank	P	Water	7470A	460-564984
Prep Batch: 460-565141					
LCS 460-565141/2-A	Lab Control Sample	T	Water	3010A	
MB 460-565141/1-A	Method Blank	T	Water	3010A	
LB 460-564906/1-E ^5	TCLP SPLPE Leachate Blank	P	Water	3010A	460-564906
LB 460-564998/1-B ^5	TCLP SPLPE Leachate Blank	P	Water	3010A	460-564998
460-168030-B-1-H DU	Duplicate	P	Water	3010A	460-564906
460-168030-B-1-I MS	Matrix Spike	P	Water	3010A	460-564906
460-168121-1	purge water	P	Water	3010A	460-564998
Prep Batch: 460-565284					
LCS 460-565284/2-A	Lab Control Sample	T	Water	7470A	
MB 460-565284/1-A	Method Blank	T	Water	7470A	
LB 460-564998/1-C	TCLP SPLPE Leachate Blank	P	Water	7470A	460-564998
460-167955-B-3-E DU	Duplicate	P	Water	7470A	460-564906
460-167955-B-3-F MS	Matrix Spike	P	Water	7470A	460-564906
460-168121-1	purge water	P	Water	7470A	460-564998
Analysis Batch:460-565347					
LCS 460-565284/2-A	Lab Control Sample	T	Water	7470A	460-565284
MB 460-565284/1-A	Method Blank	T	Water	7470A	460-565284
LB 460-564998/1-C	TCLP SPLPE Leachate Blank	P	Water	7470A	460-565284
460-167955-B-3-E DU	Duplicate	P	Water	7470A	460-565284
460-167955-B-3-F MS	Matrix Spike	P	Water	7470A	460-565284
460-168121-1	purge water	P	Water	7470A	460-565284

Client: New York State D.E.C. Job Number: 460-168121-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:460-565438					
LCS 460-565141/2-A	Lab Control Sample	T	Water	6010D	460-565141
MB 460-565141/1-A	Method Blank	T	Water	6010D	460-565141
LB 460-564906/1-E ^5	TCLP SPLPE Leachate Blank	P	Water	6010D	460-565141
LB 460-564998/1-B ^5	TCLP SPLPE Leachate Blank	P	Water	6010D	460-565141
460-168030-B-1-H DU	Duplicate	P	Water	6010D	460-565141
460-168030-B-1-I MS	Matrix Spike	P	Water	6010D	460-565141
460-168121-1	purge water	P	Water	6010D	460-565141

Report Basis
P = TCLP
T = Total

Client: New York State D.E.C. Job Number: 460-168121-1

Surrogate Recovery Report

8260C Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	DBFM %Rec	TOL %Rec
460-168121-1	purge water	89	93	106	90
MB 460-566399/8		96	100	114	98
LCS 460-566399/5		95	101	111	97
460-168121-1 MS	purge water MS	95	104	111	98
460-168121-1 MSD	purge water MSD	97	102	111	96

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	74-132
BFB = 4-Bromofluorobenzene	77-124
DBFM = Dibromofluoromethane (Surr)	72-131
TOL = Toluene-d8 (Surr)	80-120

Client: New York State D.E.C. Job Number: 460-168121-1

Surrogate Recovery Report

8270D Semivolatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	TBP %Rec	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPHL %Rec
460-168121-1	purge water	85	73	52	97	34	79
MB 460-565051/1-A		78	77	54	101	36	91
LCS 460-565051/2-A		90	81	52	97	35	87
LCS 460-565051/4-A		82	79	54	102	36	91
LCSD 460-565051/3-A		86	76	50	90	34	83
LCSD 460-565051/5-A		84	82	55	103	36	90

Surrogate	Acceptance Limits
TBP = 2,4,6-Tribromophenol (Surr)	26-139
FBP = 2-Fluorobiphenyl	45-107
2FP = 2-Fluorophenol (Surr)	25-58
NBZ = Nitrobenzene-d5 (Surr)	51-108
PHL = Phenol-d5 (Surr)	14-39
TPHL = Terphenyl-d14 (Surr)	40-148

Client: New York State D.E.C. Job Number: 460-168121-1

Method Blank - Batch: 460-566399

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 460-566399/8	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52928.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1220	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1220				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.24	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.37	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	0.31	1.0
1,1,2-Trichloroethane	1.0	U	0.43	1.0
1,1-Dichloroethane	1.0	U	0.26	1.0
1,1-Dichloroethene	1.0	U	0.12	1.0
1,2,3-Trichlorobenzene	1.0	U	0.36	1.0
1,2,4-Trichlorobenzene	1.0	U	0.37	1.0
1,2-Dibromo-3-Chloropropane	1.0	U	0.38	1.0
1,2-Dichlorobenzene	1.0	U	0.43	1.0
1,2-Dichloroethane	1.0	U	0.43	1.0
1,2-Dichloropropane	1.0	U	0.35	1.0
1,3-Dichlorobenzene	1.0	U	0.34	1.0
1,4-Dichlorobenzene	1.0	U	0.76	1.0
1,4-Dioxane	50	U	28	50
2-Butanone (MEK)	5.0	U	1.9	5.0
2-Hexanone	5.0	U	2.9	5.0
4-Methyl-2-pentanone (MIBK)	5.0	U	2.7	5.0
Acetone	5.0	U	5.0	5.0
Benzene	1.0	U	0.43	1.0
Bromoform	1.0	U	0.54	1.0
Bromomethane	1.0	U	1.0	1.0
Carbon disulfide	1.0	U	0.16	1.0
Carbon tetrachloride	1.0	U	0.21	1.0
Chlorobenzene	1.0	U	0.38	1.0
Chlorobromomethane	1.0	U	0.41	1.0
Chlorodibromomethane	1.0	U	0.28	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.33	1.0
Chloromethane	1.0	U	0.14	1.0
cis-1,2-Dichloroethene	1.0	U	0.22	1.0
cis-1,3-Dichloropropene	1.0	U	0.46	1.0
Cyclohexane	1.0	U	0.32	1.0
Dichlorobromomethane	1.0	U	0.34	1.0
Dichlorodifluoromethane	1.0	U	0.12	1.0
Ethylbenzene	1.0	U	0.30	1.0
Ethylene Dibromide	1.0	U	0.50	1.0
Isopropylbenzene	1.0	U	0.34	1.0
Methyl acetate	5.0	U	0.31	5.0
Methyl tert-butyl ether	1.0	U	0.47	1.0
Methylcyclohexane	1.0	U	0.26	1.0
Methylene Chloride	1.0	U	0.32	1.0
m-Xylene & p-Xylene	1.0	U	0.30	1.0
o-Xylene	1.0	U	0.36	1.0
Styrene	1.0	U	0.42	1.0

Client: New York State D.E.C. Job Number: 460-168121-1

Method Blank - Batch: 460-566399

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 460-566399/8	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52928.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1220	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1220				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Tetrachloroethene	1.0	U	0.25	1.0
Toluene	1.0	U	0.38	1.0
trans-1,2-Dichloroethene	1.0	U	0.24	1.0
trans-1,3-Dichloropropene	1.0	U	0.49	1.0
Trichloroethene	1.0	U	0.31	1.0
Trichlorofluoromethane	1.0	U	0.14	1.0
Vinyl chloride	1.0	U	0.17	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96	74 - 132
4-Bromofluorobenzene	100	77 - 124
Dibromofluoromethane (Surr)	114	72 - 131
Toluene-d8 (Surr)	98	80 - 120

Client: New York State D.E.C. Job Number: 460-168121-1

Lab Control Sample - Batch: 460-566399

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 460-566399/5	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52925.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1105	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1105				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1-Trichloroethane	20.0	22.5	112	75 - 125	
1,1,2,2-Tetrachloroethane	20.0	22.0	110	74 - 120	
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.2	111	59 - 150	
1,1,2-Trichloroethane	20.0	19.9	99	78 - 120	
1,1-Dichloroethane	20.0	22.0	110	77 - 123	
1,1-Dichloroethene	20.0	21.8	109	74 - 123	
1,2,3-Trichlorobenzene	20.0	22.6	113	78 - 131	
1,2,4-Trichlorobenzene	20.0	21.7	109	80 - 124	
1,2-Dibromo-3-Chloropropane	20.0	19.1	95	55 - 134	
1,2-Dichlorobenzene	20.0	21.8	109	80 - 120	
1,2-Dichloroethane	20.0	20.8	104	76 - 121	
1,2-Dichloropropane	20.0	24.0	120	77 - 123	
1,3-Dichlorobenzene	20.0	21.3	106	80 - 120	
1,4-Dichlorobenzene	20.0	21.1	106	80 - 120	
1,4-Dioxane	400	443	111	10 - 150	
2-Butanone (MEK)	100	116	116	64 - 120	
2-Hexanone	100	119	119	71 - 125	
4-Methyl-2-pentanone (MIBK)	100	113	113	78 - 124	
Acetone	100	103	103	39 - 150	
Benzene	20.0	20.1	100	77 - 121	
Bromoform	20.0	16.6	83	53 - 120	
Bromomethane	20.0	10.3	52	10 - 150	
Carbon disulfide	20.0	20.2	101	69 - 133	
Carbon tetrachloride	20.0	22.7	113	70 - 132	
Chlorobenzene	20.0	21.3	107	80 - 120	
Chlorobromomethane	20.0	24.1	120	77 - 127	
Chlorodibromomethane	20.0	18.5	93	73 - 120	
Chloroethane	20.0	13.8	69	52 - 150	
Chloroform	20.0	23.1	115	80 - 120	
Chloromethane	20.0	18.7	94	56 - 131	
cis-1,2-Dichloroethene	20.0	23.7	118	80 - 120	
cis-1,3-Dichloropropene	20.0	20.1	101	77 - 120	
Cyclohexane	20.0	22.4	112	56 - 150	
Dichlorobromomethane	20.0	21.8	109	76 - 120	
Dichlorodifluoromethane	20.0	16.2	81	50 - 131	
Ethylbenzene	20.0	20.5	103	80 - 120	
Ethylene Dibromide	20.0	22.4	112	80 - 120	
Isopropylbenzene	20.0	21.3	106	80 - 123	
Methyl acetate	40.0	43.9	110	66 - 144	
Methyl tert-butyl ether	20.0	22.1	111	79 - 122	
Methylcyclohexane	20.0	22.9	114	61 - 145	

Client: New York State D.E.C. Job Number: 460-168121-1

Lab Control Sample - Batch: 460-566399

Method: 8260C
Preparation: 5030C

Lab Sample ID:	LCS 460-566399/5	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52925.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1105	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1105				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methylene Chloride	20.0	20.9	105	77 - 123	
m-Xylene & p-Xylene	20.0	20.6	103	80 - 120	
o-Xylene	20.0	21.1	105	80 - 120	
Styrene	20.0	21.8	109	80 - 120	
Tetrachloroethene	20.0	21.3	106	78 - 122	
Toluene	20.0	20.3	102	80 - 120	
trans-1,2-Dichloroethene	20.0	22.3	112	79 - 120	
trans-1,3-Dichloropropene	20.0	20.4	102	76 - 120	
Trichloroethene	20.0	23.5	118	77 - 120	
Trichlorofluoromethane	20.0	18.9	94	71 - 143	
Vinyl chloride	20.0	21.1	105	62 - 138	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	74 - 132
4-Bromofluorobenzene	101	77 - 124
Dibromofluoromethane (Surr)	111	72 - 131
Toluene-d8 (Surr)	97	80 - 120

Client: New York State D.E.C. Job Number: 460-168121-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 460-566399

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	460-168121-1	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52933.D
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1435			Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1435				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	460-168121-1	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52934.D
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1501			Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1501				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1-Trichloroethane	111	110	75 - 125	1	30		
1,1,2,2-Tetrachloroethane	101	102	74 - 120	1	30		
1,1,2-Trichloro-1,2,2-trifluoroethane	84	84	59 - 150	1	30		
1,1,2-Trichloroethane	96	97	78 - 120	1	30		
1,1-Dichloroethane	111	113	77 - 123	2	30		
1,1-Dichloroethene	107	107	74 - 123	1	30		
1,2,3-Trichlorobenzene	102	104	78 - 131	3	30		
1,2,4-Trichlorobenzene	103	104	80 - 124	1	30		
1,2-Dibromo-3-Chloropropane	83	84	55 - 134	1	30		
1,2-Dichlorobenzene	106	108	80 - 120	2	30		
1,2-Dichloroethane	101	102	76 - 121	1	30		
1,2-Dichloropropane	118	117	77 - 123	0	30		
1,3-Dichlorobenzene	104	105	80 - 120	1	30		
1,4-Dichlorobenzene	102	104	80 - 120	2	30		
1,4-Dioxane	102	114	10 - 150	11	30		
2-Butanone (MEK)	114	115	64 - 120	0	30		
2-Hexanone	114	113	71 - 125	0	30		
4-Methyl-2-pentanone (MIBK)	112	112	78 - 124	0	30		
Acetone	103	104	39 - 150	1	30		
Benzene	101	101	77 - 121	0	30		
Bromoform	78	77	53 - 120	1	30		
Bromomethane	71	72	10 - 150	2	30		
Carbon disulfide	103	103	69 - 133	0	30		
Carbon tetrachloride	108	108	70 - 132	1	30		
Chlorobenzene	106	107	80 - 120	1	30		
Chlorobromomethane	118	118	77 - 127	0	30		
Chlorodibromomethane	89	91	73 - 120	2	30		
Chloroethane	119	112	52 - 150	6	30		
Chloroform	116	115	80 - 120	0	30		
Chloromethane	97	98	56 - 131	1	30		
cis-1,2-Dichloroethene	117	117	80 - 120	0	30		
cis-1,3-Dichloropropene	97	99	77 - 120	2	30		

Client: New York State D.E.C. Job Number: 460-168121-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 460-566399

Method: 8260C
Preparation: 5030C

MS Lab Sample ID:	460-168121-1	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52933.D
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1435			Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1435				5 mL
Leach Date:	N/A				

MSD Lab Sample ID:	460-168121-1	Analysis Batch:	460-566399	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P52934.D
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/07/2018 1501			Final Weight/Volume:	5 mL
Prep Date:	11/07/2018 1501				5 mL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cyclohexane	92	92	56 - 150	0	30		
Dichlorobromomethane	107	109	76 - 120	2	30		
Dichlorodifluoromethane	68	68	50 - 131	0	30		
Ethylbenzene	103	104	80 - 120	1	30		
Ethylene Dibromide	105	105	80 - 120	0	30		
Isopropylbenzene	107	107	80 - 123	0	30		
Methyl acetate	100	104	66 - 144	3	30		
Methyl tert-butyl ether	104	105	79 - 122	0	30		
Methylcyclohexane	92	90	61 - 145	2	30		
Methylene Chloride	104	103	77 - 123	1	30		
m-Xylene & p-Xylene	105	104	80 - 120	0	30		
o-Xylene	105	107	80 - 120	2	30		
Styrene	107	109	80 - 120	2	30		
Tetrachloroethene	103	104	78 - 122	1	30		
Toluene	102	103	80 - 120	0	30		
trans-1,2-Dichloroethene	110	110	79 - 120	0	30		
trans-1,3-Dichloropropene	96	101	76 - 120	5	30		
Trichloroethene	114	115	77 - 120	1	30		
Trichlorofluoromethane	104	102	71 - 143	2	30		
Vinyl chloride	113	109	62 - 138	4	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	97	74 - 132
4-Bromofluorobenzene	104	102	77 - 124
Dibromofluoromethane (Surr)	111	111	72 - 131
Toluene-d8 (Surr)	98	96	80 - 120

Client: New York State D.E.C. Job Number: 460-168121-1

Method Blank - Batch: 460-565051

Method: 8270D
Preparation: 3510C

Lab Sample ID:	MB 460-565051/1-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06758.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0136	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1'-Biphenyl	10	U	1.2	10
1,2,4,5-Tetrachlorobenzene	10	U	1.2	10
2,2'-oxybis[1-chloropropane]	10	U	0.63	10
2,3,4,6-Tetrachlorophenol	10	U	0.75	10
2,4,5-Trichlorophenol	10	U	0.28	10
2,4,6-Trichlorophenol	10	U	0.30	10
2,4-Dichlorophenol	10	U	0.42	10
2,4-Dimethylphenol	10	U	0.24	10
2,4-Dinitrophenol	20	U	14	20
2,4-Dinitrotoluene	2.0	U	1.0	2.0
2,6-Dinitrotoluene	2.0	U	0.39	2.0
2-Chloronaphthalene	10	U	1.2	10
2-Chlorophenol	10	U	0.38	10
2-Methylnaphthalene	10	U	1.1	10
2-Methylphenol	10	U	0.26	10
2-Nitroaniline	10	U	0.47	10
2-Nitrophenol	10	U	0.75	10
3,3'-Dichlorobenzidine	10	U	1.4	10
3-Nitroaniline	10	U	0.96	10
4,6-Dinitro-2-methylphenol	20	U	13	20
4-Bromophenyl phenyl ether	10	U	0.75	10
4-Chloro-3-methylphenol	10	U	0.58	10
4-Chloroaniline	10	U	1.9	10
4-Chlorophenyl phenyl ether	10	U	1.3	10
4-Methylphenol	10	U	0.24	10
4-Nitroaniline	10	U	0.54	10
4-Nitrophenol	20	U	0.69	20
Acenaphthene	10	U	1.1	10
Acenaphthylene	10	U	0.82	10
Acetophenone	10	U	0.79	10
Anthracene	10	U	0.63	10
Atrazine	2.0	U	1.3	2.0
Benzaldehyde	10	U	0.59	10
Benzo[a]anthracene	1.0	U	0.59	1.0
Benzo[a]pyrene	1.0	U	0.41	1.0
Benzo[b]fluoranthene	2.0	U	1.1	2.0
Benzo[g,h,i]perylene	10	U	1.4	10
Benzo[k]fluoranthene	1.0	U	0.67	1.0
Bis(2-chloroethoxy)methane	10	U	0.24	10
Bis(2-chloroethyl)ether	1.0	U	0.30	1.0
Bis(2-ethylhexyl) phthalate	2.0	U	1.7	2.0
Butyl benzyl phthalate	10	U	0.85	10
Caprolactam	10	U	0.68	10
Carbazole	10	U	0.68	10
Chrysene	2.0	U	0.91	2.0

Client: New York State D.E.C. Job Number: 460-168121-1

Method Blank - Batch: 460-565051

Method: 8270D
Preparation: 3510C

Lab Sample ID:	MB 460-565051/1-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06758.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0136	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Dibenz(a,h)anthracene	1.0	U	0.72	1.0
Dibenzofuran	10	U	1.1	10
Diethyl phthalate	10	U	0.98	10
Dimethyl phthalate	10	U	0.77	10
Di-n-butyl phthalate	10	U	0.84	10
Di-n-octyl phthalate	10	U	4.8	10
Fluoranthene	10	U	0.84	10
Fluorene	10	U	0.91	10
Hexachlorobenzene	1.0	U	0.40	1.0
Hexachlorobutadiene	1.0	U	0.78	1.0
Hexachlorocyclopentadiene	10	U	1.7	10
Hexachloroethane	2.0	U	1.2	2.0
Indeno[1,2,3-cd]pyrene	2.0	U	1.3	2.0
Isophorone	10	U	0.80	10
Naphthalene	10	U	1.1	10
Nitrobenzene	1.0	U	0.57	1.0
N-Nitrosodi-n-propylamine	1.0	U	0.43	1.0
N-Nitrosodiphenylamine	10	U	0.89	10
Pentachlorophenol	20	U	1.4	20
Phenanthrene	10	U	0.58	10
Phenol	10	U	0.29	10
Pyrene	10	U	1.6	10

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol (Surr)	78	26 - 139
2-Fluorobiphenyl	77	45 - 107
2-Fluorophenol (Surr)	54	25 - 58
Nitrobenzene-d5 (Surr)	101	51 - 108
Phenol-d5 (Surr)	36	14 - 39
Terphenyl-d14 (Surr)	91	40 - 148

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 460-565051

Method: 8270D
Preparation: 3510C

LCS Lab Sample ID:	LCS 460-565051/2-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06759.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0157	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-565051/3-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06760.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0217	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

	% Rec.					
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,1'-Biphenyl	88	82	54 - 108	7	30		
1,2,4,5-Tetrachlorobenzene	82	76	46 - 105	7	30		
2,2'-oxybis[1-chloropropane]	89	81	50 - 108	9	30		
2,3,4,6-Tetrachlorophenol	98	91	57 - 122	7	30		
2,4,5-Trichlorophenol	97	92	59 - 117	5	30		
2,4,6-Trichlorophenol	101	96	62 - 120	5	30		
2,4-Dichlorophenol	90	84	62 - 102	7	30		
2,4-Dimethylphenol	89	81	61 - 95	9	30		
2,4-Dinitrophenol	112	110	45 - 125	2	30		
2,4-Dinitrotoluene	101	95	70 - 123	6	30		
2,6-Dinitrotoluene	100	91	68 - 121	9	30		
2-Chloronaphthalene	88	82	54 - 105	6	30		
2-Chlorophenol	83	76	54 - 92	8	30		
2-Methylnaphthalene	81	73	47 - 104	10	30		
2-Methylphenol	70	64	43 - 80	9	30		
2-Nitroaniline	95	101	46 - 124	6	30		
2-Nitrophenol	113	107	58 - 109	6	30	*	
3,3'-Dichlorobenzidine	103	97	68 - 123	6	30		
3-Nitroaniline	95	89	60 - 117	7	30		
4,6-Dinitro-2-methylphenol	114	110	59 - 132	4	30		
4-Bromophenyl phenyl ether	96	88	57 - 126	9	30		
4-Chloro-3-methylphenol	86	81	58 - 98	7	30		
4-Chloroaniline	88	83	51 - 108	6	30		
4-Chlorophenyl phenyl ether	90	84	60 - 114	7	30		
4-Methylphenol	68	64	34 - 78	6	30		
4-Nitroaniline	94	90	48 - 135	5	30		
4-Nitrophenol	39	39	11 - 47	1	30		
Acenaphthene	91	84	58 - 107	9	30		
Acenaphthylene	99	91	61 - 106	8	30		
Acetophenone	91	83	54 - 115	8	30		
Anthracene	97	90	70 - 118	8	30		
Benzo[a]anthracene	102	97	73 - 119	5	30		
Benzo[a]pyrene	108	99	76 - 125	9	30		
Benzo[b]fluoranthene	108	98	78 - 123	10	30		
Benzo[g,h,i]perylene	116	107	63 - 133	8	30		

Client: New York State D.E.C. Job Number: 460-168121-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 460-565051

Method: 8270D
Preparation: 3510C

LCS Lab Sample ID:	LCS 460-565051/2-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06759.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0157	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-565051/3-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06760.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0217	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[k]fluoranthene	107	99	71 - 126	8	30		
Bis(2-chloroethoxy)methane	96	87	67 - 104	9	30		
Bis(2-chloroethyl)ether	90	83	63 - 106	8	30		
Bis(2-ethylhexyl) phthalate	102	97	63 - 135	5	30		
Butyl benzyl phthalate	112	106	66 - 129	6	30		
Carbazole	99	93	68 - 121	6	30		
Chrysene	106	100	73 - 121	6	30		
Dibenz(a,h)anthracene	125	117	59 - 136	7	30		
Dibenzofuran	91	86	67 - 108	6	30		
Diethyl phthalate	93	87	61 - 129	7	30		
Dimethyl phthalate	94	87	65 - 121	8	30		
Di-n-butyl phthalate	102	95	64 - 130	7	30		
Di-n-octyl phthalate	95	88	64 - 131	8	30		
Fluoranthene	99	93	66 - 123	6	30		
Fluorene	92	86	67 - 112	7	30		
Hexachlorobenzene	96	90	63 - 125	7	30		
Hexachlorobutadiene	63	58	34 - 99	8	30		
Hexachlorocyclopentadiene	65	65	18 - 99	1	30		
Hexachloroethane	59	53	39 - 92	12	30		
Indeno[1,2,3-cd]pyrene	121	113	57 - 142	7	30		
Isophorone	99	91	55 - 105	9	30		
Naphthalene	80	74	51 - 98	9	30		
Nitrobenzene	97	89	56 - 106	9	30		
N-Nitrosodi-n-propylamine	92	86	48 - 118	7	30		
N-Nitrosodiphenylamine	101	92	69 - 118	9	30		
Pentachlorophenol	97	89	54 - 120	8	30		
Phenanthrene	98	90	70 - 117	9	30		
Phenol	44	44	16 - 43	1	30	*	*
Pyrene	99	93	63 - 129	6	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2,4,6-Tribromophenol (Surr)	90	86	26 - 139
2-Fluorobiphenyl	81	76	45 - 107
2-Fluorophenol (Surr)	52	50	25 - 58
Nitrobenzene-d5 (Surr)	97	90	51 - 108
Phenol-d5 (Surr)	35	34	14 - 39

Client: New York State D.E.C. Job Number: 460-168121-1

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Terphenyl-d14 (Surr)	87	83	40 - 148

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 460-565051

Method: 8270D
Preparation: 3510C

LCS Lab Sample ID:	LCS 460-565051/4-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06761.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0238	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-565051/5-A	Analysis Batch:	460-565126	Instrument ID:	CBNAMS17
Client Matrix:	Water	Prep Batch:	460-565051	Lab File ID:	M06762.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	11/02/2018 0259	Units:	ug/L	Final Weight/Volume:	2 mL
Prep Date:	11/01/2018 1647			Injection Volume:	5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Atrazine	127	125	38 - 146	2	30		
Benzaldehyde	107	103	46 - 111	3	30		
Caprolactam	30	26	10 - 43	14	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2,4,6-Tribromophenol (Surr)	82	84	26 - 139
2-Fluorobiphenyl	79	82	45 - 107
2-Fluorophenol (Surr)	54	55	25 - 58
Nitrobenzene-d5 (Surr)	102	103	51 - 108
Phenol-d5 (Surr)	36	36	14 - 39
Terphenyl-d14 (Surr)	91	90	40 - 148

Client: New York State D.E.C. Job Number: 460-168121-1

Method Blank - Batch: 460-565141

Method: 6010D
Preparation: 3010A

Lab Sample ID:	MB 460-565141/1-A	Analysis Batch:	460-565438	Instrument ID:	ICP4
Client Matrix:	Water	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/02/2018 1624	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Arsenic	15.0	U	2.7	15.0
Barium	200	U	7.7	200
Cadmium	4.0	U	0.22	4.0
Chromium	10.0	U	1.3	10.0
Lead	10.0	U	2.5	10.0
Selenium	20.0	U	6.6	20.0
Silver	10.0	U	1.1	10.0

TCLP SPLPE Leachate Blank - Batch: 460-565141

Method: 6010D
Preparation: 3010A
TCLP

Lab Sample ID:	LB 460-564906/1-E ^5	Analysis Batch:	460-565438	Instrument ID:	ICP4
Client Matrix:	Water	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	5.0	Leach Batch:	460-564906	Initial Weight/Volume:	50 mL
Analysis Date:	11/03/2018 0106	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	10/31/2018 1500				

Analyte	Result	Qual	MDL	RL
Arsenic	75.0	U	13.3	75.0
Barium	1000	U	38.4	1000
Cadmium	20.0	U	1.1	20.0
Chromium	50.0	U	6.3	50.0
Lead	50.0	U	12.3	50.0
Selenium	100	U	33.0	100
Silver	50.0	U	5.4	50.0

Client: New York State D.E.C. Job Number: 460-168121-1

TCLP SPLPE Leachate Blank - Batch: 460-565141

Method: 6010D
Preparation: 3010A
TCLP

Lab Sample ID:	LB 460-564998/1-B ^5	Analysis Batch:	460-565438	Instrument ID:	ICP4
Client Matrix:	Water	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	5.0	Leach Batch:	460-564998	Initial Weight/Volume:	50 mL
Analysis Date:	11/03/2018 0114	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	11/01/2018 1300				

Analyte	Result	Qual	MDL	RL
Arsenic	75.0	U	13.3	75.0
Barium	1000	U	38.4	1000
Cadmium	20.0	U	1.1	20.0
Chromium	50.0	U	6.3	50.0
Lead	50.0	U	12.3	50.0
Selenium	100	U	33.0	100
Silver	50.0	U	5.4	50.0

Lab Control Sample - Batch: 460-565141

Method: 6010D
Preparation: 3010A

Lab Sample ID:	LCS 460-565141/2-A	Analysis Batch:	460-565438	Instrument ID:	ICP4
Client Matrix:	Water	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	2.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	11/02/2018 1628	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	5000	5014	100	80 - 120	
Barium	10000	11090	111	80 - 120	
Cadmium	1000	1122	112	80 - 120	
Chromium	5000	5602	112	80 - 120	
Lead	5000	5538	111	80 - 120	
Selenium	1000	1032	103	80 - 120	
Silver	500	497.6	100	80 - 120	

Matrix Spike - Batch: 460-565141

Method: 6010D
Preparation: 3010A
TCLP

Lab Sample ID:	460-168030-B-1-I MS	Analysis Batch:	460-565438	Instrument ID:	ICP4
Client Matrix:	Water	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	5.0	Leach Batch:	460-564906	Initial Weight/Volume:	50 mL
Analysis Date:	11/02/2018 1645	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	10/31/2018 1500				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	79.4		5000	5350	105	75 - 125	
Barium	79.2	J	10000	11190	111	75 - 125	
Cadmium	20.0	U	1000	1118	112	75 - 125	
Chromium	50.0	U	5000	5760	115	75 - 125	
Lead	55.3		5000	5460	108	75 - 125	
Selenium	100	U	1000	1098	110	75 - 125	
Silver	50.0	U	500	526.5	105	75 - 125	

Duplicate - Batch: 460-565141

Method: 6010D
Preparation: 3010A
TCLP

Lab Sample ID:	460-168030-B-1-H DU	Analysis Batch:	460-565438	Instrument ID:	ICP4
Client Matrix:	Water	Prep Batch:	460-565141	Lab File ID:	A565141.asc
Dilution:	5.0	Leach Batch:	460-564906	Initial Weight/Volume:	50 mL
Analysis Date:	11/02/2018 1632	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	11/02/2018 0015				
Leach Date:	10/31/2018 1500				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Arsenic	79.4		84.95	7	20	
Barium	79.2	J	78.20	1	20	J
Cadmium	20.0	U	20.0	NC	20	U
Chromium	50.0	U	50.0	NC	20	U
Lead	55.3		52.00	6	20	
Selenium	100	U	100	NC	20	U
Silver	50.0	U	50.0	NC	20	U

Method Blank - Batch: 460-564984

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 460-564984/1-A	Analysis Batch:	460-565063	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-564984	Lab File ID:	564977hg1.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/01/2018 1542	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/01/2018 1210				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.20	U	0.12	0.20

TCLP SPLPE Leachate Blank - Batch: 460-564984

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LB 460-564906/1-B	Analysis Batch:	460-565063	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-564984	Lab File ID:	564977hg1.CSV
Dilution:	1.0	Leach Batch:	460-564906	Initial Weight/Volume:	30 mL
Analysis Date:	11/01/2018 1634	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/01/2018 1210				
Leach Date:	10/31/2018 1500				

Analyte	Result	Qual	MDL	RL
Mercury	0.20	U	0.12	0.20

Client: New York State D.E.C. Job Number: 460-168121-1

Method Blank - Batch: 460-565284

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 460-565284/1-A	Analysis Batch:	460-565347	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-565284	Lab File ID:	565282hg1.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/02/2018 1402	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/02/2018 1101				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.20	U	0.12	0.20

TCLP SPLPE Leachate Blank - Batch: 460-565284

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LB 460-564998/1-C	Analysis Batch:	460-565347	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-565284	Lab File ID:	565282hg1.CSV
Dilution:	1.0	Leach Batch:	460-564998	Initial Weight/Volume:	30 mL
Analysis Date:	11/02/2018 1448	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/02/2018 1101				
Leach Date:	11/01/2018 1300				

Analyte	Result	Qual	MDL	RL
Mercury	0.20	U	0.12	0.20

Lab Control Sample - Batch: 460-565284

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 460-565284/2-A	Analysis Batch:	460-565347	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-565284	Lab File ID:	565282hg1.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	11/02/2018 1403	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/02/2018 1101				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	5.00	4.90	98	80 - 120	

Client: New York State D.E.C. Job Number: 460-168121-1

Matrix Spike - Batch: 460-565284

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	460-167955-B-3-F MS	Analysis Batch:	460-565347	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-565284	Lab File ID:	565282hg1.CSV
Dilution:	1.0	Leach Batch:	460-564906	Initial Weight/Volume:	30 mL
Analysis Date:	11/02/2018 1409	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/02/2018 1101				
Leach Date:	10/31/2018 1500				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.20	U	5.00	4.97	99	75 - 125	

Duplicate - Batch: 460-565284

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	460-167955-B-3-E DU	Analysis Batch:	460-565347	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-565284	Lab File ID:	565282hg1.CSV
Dilution:	1.0	Leach Batch:	460-564906	Initial Weight/Volume:	30 mL
Analysis Date:	11/02/2018 1407	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	11/02/2018 1101				
Leach Date:	10/31/2018 1500				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.20	U	0.20	NC	20	U

TestAmerica Edison
777 New Durham Road
Edison, NJ 08817
Phone (732) 549-3900 Fax (732) 549-3679

Chain of Custody Record

NYSC 460501

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: JB RC	Lab PM: Haas, Melissa	Carrier Tracking No(s):	COC No: 460-103727-66387.1
Client Contact: Mr. Ian Hofmann	Phone: 631-447-6400	E-Mail: melissa.haas@testamericainc.com		Page: Page 1 of 1
Company: Environmental Assessment & Remediations				Job #: 168121
Address: dba Env Assessment & Remediation 225 Atlantic Avenue	Due Date Requested:			
City: Patchogue	TAT Requested (days): 10 days			
State, Zip: NY, 11772				
Phone: 631-241-8741(Tel)	PO #: Site: 130011; Callout: 136092			
Email: IHofmann@ENVIRO-ASMNT.COM	WO #: Miller Place & Robbins Lane, Oyster Bay			
Project Name: DEC OYSTERBAY-SYOSSETTLANDFILL	Project #: 46027387			
Analysis Group: GW - Water Disposal	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - TCLBNA updated SOM01.2	6010D, 7470A - TCLP RCRA Metals	8260C - TCL VOC updated SOM01.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	A		
purge water	10/29/18	13:50	G	Water			X	X	X		

460-168121 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - **NY Cat A**

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Jason Brown	10/29/18			10/29/18 14:45	TA
	10/29/18 20:00	TA		10/29/18 2003	TA 601
	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		3.2 C 3 2 IR#4

TestAmerica Edison
Receipt Temperature and pH Log

Job Number: 168121

Number of Coolers: 1 IR Gun # 9

Cooler Temperatures

	RAW	CORRECTED		RAW	CORRECTED		RAW	CORRECTED
Cooler #1:	3.4 °C	3.2 °C	Cooler #4:	°C	°C	Cooler #7:	°C	°C
Cooler #2:	°C	°C	Cooler #5:	°C	°C	Cooler #8:	°C	°C
Cooler #3:	°C	°C	Cooler #6:	°C	°C	Cooler #9:	°C	°C

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate Nitrite (pH<2)	Metals* (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or QAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other

If pH adjustments are required record the information below:

Sample No(s). adjusted: _____

Preservative Name/Conc.: _____ Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____ Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

*Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.

Initials: SC Date: 10/31/18

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 460-168121-1

Login Number: 168121
List Number: 1
Creator: Lysy, Susan

List Source: TestAmerica Edison

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