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Groundwater Sampling, NAPL Monitoring/Recovery and Groundwater Treatment Performance Report for the First Quarter of 2018 (January - March 2018) for the Hempstead Intersection Street Former Manufactured Gas Plant Site

Villages of Hempstead & Garden City
Nassau County, New York

Prepared for:

National Grid
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AECOM

July 2018

GROUNDWATER SAMPLING, NAPL MONITORING/RECOVERY, AND GROUNDWATER TREATMENT PERFORMANCE REPORT FOR THE FIRST QUARTER OF 2018 (JANUARY - MARCH)

HEMPSTEAD INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE
VILLAGES OF HEMPSTEAD AND GARDEN CITY
NASSAU COUNTY, NEW YORK 11550

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ACRONYMS AND ABBREVIATIONS

AECOM	AECOM USA, Inc.
amsl	above mean sea level
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, xylenes
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen
DUSR	data usability summary report
ft	foot (feet)
ft/ft	feet per feet
HIMW	Hempstead Intersection (Street) Monitoring Well
ISS	In Situ Solidification
LNAPL	light non-aqueous phase liquid
MGP	manufactured gas plant
µg/L	micrograms per liter
MP	monitoring points
NAPL	non-aqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation-reduction potential
PAHs	polycyclic aromatic hydrocarbons
PID	photo ionization detector
POB	Professional Office Building
QC	quality control
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

This report provides a summary of field activities, analytical results, and data interpretations associated with groundwater sampling, gauging, and recovery of non-aqueous phase liquid (NAPL), and with the groundwater treatment systems at the Hempstead Intersection Street Former Manufactured Gas Plant (MGP) site during the First Quarter (January, February, and March) 2018.

Quarterly groundwater monitoring and sampling were conducted on March 19 - 29, 2018. This included measuring the depth to groundwater and NAPL thickness in 44 wells. Groundwater samples were collected from 24 wells and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs).

NAPL monitoring was conducted on March 19, 2018. NAPL recovery was not conducted in the First Quarter of 2018.

The following results were obtained from the groundwater sampling and NAPL monitoring events:

- The general direction of groundwater flow in the First Quarter 2018 in the shallow, intermediate, and deep water-bearing zones was south at an average gradient of approximately 0.002 feet per feet (ft/ft).
- The extent of the dissolved-phase groundwater plume boundary and the data for the First Quarter 2018 are shown in Figure 4. The downgradient boundary of the plume, which is defined by total BTEX or PAH concentrations greater than 100 µg/L, extends approximately 816 feet south of the site boundary.
- Dense non-aqueous phase liquid (DNAPL) was detected in one existing site-related well during the First Quarter 2018. The well (HIMW-021), is located along the west side of Wendell Street, south of the Hempstead Intersection Street former MGP site.
- NAPL monitoring was conducted one time and NAPL recovery was not conducted during the quarter. No DNAPL removed during the First Quarter 2018. A total of 857.6 gallons of NAPL have been recovered to date from all of the Site related recovery wells between April 2007 and March 2018.

The first of two oxygen delivery systems (System No. 2) started operating in October 2010 and continued to promote aerobic conditions in the aquifer near the system during the First Quarter of 2018.

The second of two oxygen delivery systems (System No. 1) started operating in April 2011 and operated through June 2017 when an electric motor overheated. Following restart, the compressor malfunctioned. A series of repairs and parts replacements were not able to effectively restore compressor operation, and National Grid elected in December 2017 to replace the entire compressor. An additional series of repairs and parts replacements continued and were finalized during the 1Q of 2018. Average oxygen levels gradually increased during 1Q of 2018 [i.e., from 4.6 mg/L (January 26) to 16.9 mg/L (March 29)].

Monthly headspace and water quality parameters were collected from the monitoring points for Systems No. 1 and No. 2 by Island Pump & Tank Corporation. During the First Quarter of 2018, Island Pump & Tank monitored System No. 1 during three events and System No. 2 during three events.

1.0 INTRODUCTION

This quarterly report summarizes the field activities, analytical results, and data interpretations associated with groundwater sampling, gauging, and recovery of NAPL and the monitoring of the groundwater treatment systems during the First Quarter of 2018 at the Hempstead Intersection Street Former MGP site (refer to Figures 1, 2, and 3).

Quarterly groundwater monitoring and bimonthly recovery of NAPL was initiated in April 2007. Separate reports are typically provided for the first three quarters of the year and the fourth quarter data typically gets reported as part of the Annual Report. In 2016, the Third and Fourth Quarters were combined in the 2016 Annual Report. Separate reports have been issued quarterly since 2007 as listed in the References section of this report.

AECOM USA, Inc. (AECOM) performed the following activities during the First Quarter of 2018:

- Measured the depth to groundwater and NAPL thickness in 44 off-site wells on March 19, 2018 (see Tables 1 and 2).
- Monitored NAPL at HIMW-021 only on March 19. No product was recovered during the First Quarter 2018 (see Table 3).
- Collected groundwater samples from 24 monitoring wells for laboratory analysis during the scheduled round of quarterly groundwater sampling (see Table 4).

Island Pump & Tank also performed water level measurements, well headspace monitoring with a photoionization detector (PID), and dissolved oxygen (DO) measurements with a DO meter (YSI 55A) on System No. 1 during three events and on System No. 2 during three events in the First Quarter 2018. Monitoring is conducted monthly to assess the performance of groundwater treatment System No. 1 and System No. 2. This data is presented in Table 5.

2.0 FIELD ACTIVITIES

The field activities performed by AECOM during the First Quarter of 2018 included the measurement of the depth to groundwater and NAPL thickness in 44 monitoring wells and the collection of groundwater samples from 24 monitoring wells.

Monitoring wells and piezometers used for these activities are listed in Table 1. First Quarter 2018 groundwater elevations and NAPL thickness values are presented in Table 2, NAPL recovery is reported in Table 3, and the results of groundwater sampling are presented in Table 4.

Island Pump & Tank performed measurements to monitor the performance of the groundwater treatment Systems No. 1 and No. 2 monthly during the First Quarter of 2018. Island Pump & Tank collected water level measurements with an electronic oil/water interface probe, well headspace monitoring data with a PID, and DO measurements with a YSI 55A dissolved oxygen meter on System No. 1 on January 26, February 26, and March 29, 2018 and on System No. 2 on January 24, February 26, and March 30, 2018. This data is presented in Table 5.

2.1 Groundwater Depth and NAPL Thickness Measurements

An electronic oil/water interface probe was used to measure the depth to groundwater and check for the presence of light non-aqueous phase liquid (LNAPL). DNAPL thickness was measured using a weighted cotton string that absorbs oil. Depths to groundwater and NAPL thickness measurements are listed in Table 2. NAPL thicknesses and recovery amounts are listed in Table 3.

There were 44 monitoring wells gauged during the First Quarter March 19, 2018 gauging event. HIMW-12I was not gauged for DNAPL thickness or total well depth and HIMW-12D was not gauged for any of the gauging parameters due to obstructions inside the wells.

2.2 NAPL Recovery

NAPL recovery occurred between 2007 and the Third Quarter of 2011 when the In Situ Solidification (ISS) remediation project began. Approximately 745 gallons of NAPL were recovered between April 2007 and July 2011 when NAPL recovery ended upon the start of ISS treatment. All, but one, of the recovery wells were destroyed to complete the ISS work. NAPL recovery is limited to this one well, HIMW-021, which is located to the south of the site adjacent to the sidewalk of the Professional Office Building (POB), outside the ISS area.

NAPL levels were monitored in well HIMW-021 during one gauging event on March 29, 2018. During the event, the well was gauged with a weighted cotton string to measure the DNAPL thickness. NAPL was not recovered from HIMW-021 during the March 29 event. A total of 857.6 gallons of NAPL have been recovered from all of the Site related recovery wells between April 2007 and March 2018.

Table 3 presents First Quarter 2018 NAPL thickness and recovery amounts at HIMW-021 per event and the total NAPL recovery amounts from the site.

2.3 Groundwater Sampling

Low-flow groundwater sampling methods were used to sample groundwater, which included purging groundwater at a rate of between 145 and 350 milliliters per minute. The water was pumped through a flow-through cell and monitored for pH, conductivity, turbidity, DO, temperature, and oxidation-reduction potential (ORP). Purging was continued until stable conditions were achieved (defined as three consecutive stable readings [i.e. $\pm$ 10 percent] over a 15 minute period). Groundwater samples were collected afterwards and shipped under chain-of-custody procedures to Pace Analytical Laboratory for analysis of BTEX (United States Environmental Protection Agency [USEPA] Method 8260C) and PAHs (USEPA Method 8270D). Purge water was stored in an onsite storage tank for subsequent offsite disposal. The Data Usability Summary Report (DUSR) is presented in Appendix A.

There were 24 monitoring wells sampled during the First Quarter March 20-29, 2018 groundwater sampling event. Two monitoring wells from the sampling and analysis plan (HIMW-012I and HIMW-012D) were not sampled during this quarterly event because of obstructions inside the wells risers. Analytical results from the quarterly groundwater sampling event and the additional monitoring wells are presented in Table 4 and Figure 4.

2.4 Groundwater Treatment System Operation

Two oxygen delivery systems were installed to enhance the groundwater oxygen concentrations in the groundwater plume. "System No. 1" is located along Smith Street, a portion of the Long Island Railroad Right of Way, and a portion of Hilton Avenue and began operation in April 2011. "System No. 2" extends from Mirschel Park in the east to Kensington Court in the west and began operation in October 2010. Figure 3 shows the locations of the two systems.

The performance of System No. 1 and System No. 2 was monitored by Island Pump & Tank during the First Quarter 2018 through the measurement of water levels, headspace gas, and water quality parameters in the groundwater monthly, see Table 5. Island Pump & Tank performed water level measurements with an electronic oil/water interface probe, well headspace monitoring with a PID, and DO measurements with a DO meter (YSI 55A). These measurements were collected during the First Quarter and were taken during three events for System No. 1 on January 26, February 26, and March 29, 2018 and during three events for System No. 2 on January 24, February 26, and March 30, 2018. The full system data is included in Appendix B.

3.0 RESULTS

3.1 Dissolved-Phase Plume

The extent of the dissolved-phase groundwater plume boundary and the data for First Quarter 2018 (and the historical concentration ranges) are shown in Figure 4. The downgradient boundary of the plume, which is defined by total BTEX or PAH concentrations greater than 100 µg/L, extends approximately 820 feet south of the site boundary.

3.2 Potentiometric Heads and NAPL Thickness

Potentiometric heads and NAPL thickness measurements for the First Quarter 2018 are presented in Table 2. Potentiometric surface maps for shallow, intermediate, and deep groundwater zones were developed using this data and are shown in Figures 5, 6, and 7, respectively for the First Quarter 2018. The data for First Quarter 2018 indicates that the direction of groundwater flow within the well field was south at an average gradient of approximately 0.002 ft/ft for shallow, intermediate, and deep water bearing zones. These values are consistent with historical data.

DNAPL was observed in one well during the First Quarter 2018 on March 19th for a total of one event, see Table 3. The well (HIMW-021) is located along the west side of Wendell Street south of the Site and Intersection Street (Figure 8). All wells in the parking lot of the POB were decommissioned in late June 2013 during ISS work. Wells located within the property boundary of the site were previously decommissioned in Fourth Quarter 2011 with the start of the ISS remediation project.

3.3 Groundwater Analytical Results

Groundwater analytical results are summarized in Section 3.1, Table 4, and Appendix A and are illustrated on Figures 4 and 8.

A DUSR was prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B – Guidance for the Development of Data Usability Summary Reports*, May 2010. The review included completeness of all required deliverables; holding times; quality control (QC) results (blanks, instrument tunes, calibration standards, matrix spike recoveries, duplicate analyses, and laboratory control sample recoveries) to determine if the data are

within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers. All sample analyses were found to be compliant with the method and validation criteria and the data is useable as reported, except where noted in the DUSR. An electronic copy of the DUSR is included as Appendix A.

3.4 NAPL Recovery Volumes

HIMW-021 is the one remaining product recovery well associated with the site. It is located south of the site in the sidewalk along the west side of Wendell Street. In the First Quarter 2018, NAPL levels were monitored in well HIMW-021 during one gauging event: March 19th. During this event, the well was gauged with a weighted cotton string to measure the DNAPL thickness. During the March event, no NAPL was recovered from this well. A total of 857.6 gallons of NAPL have been recovered to date from all of the Site related recovery wells between April 2007 and March 2018. Table 3 lists the amount of DNAPL gauged in HIMW-021 during each event and the total amount of product recovered.

3.5 Groundwater Treatment System Performance

Groundwater treatment system performance data for First Quarter 2018, as collected and reported by Island Pump & Tank, is presented in Table 5.

System No. 1

System No. 1 operated through June 2017 when an electric motor overheated. Following restart, the compressor malfunctioned. A series of repairs and parts replacements were not able to effectively restore compressor operation, and National Grid elected in December 2017 to replace the entire compressor. An additional series of repairs and parts replacements continued and were finalized during the 1Q of 2018. Additionally, the zeolite air separation media was replaced in March 2018 due to a decrease in oxygen concentration related to impacts to the media from the compressor failure. Average oxygen levels gradually increased during 1Q of 2018. System No. 1 DO readings reported in the First Quarter 2018 ranged from a low of 2.11 mg/L at MP-1-8 on January 26, 2018 to a high of 40.82 mg/L at MP-1-2D on March 29, 2018. The overall average DO reading for System No. 1 in the First Quarter was 11.08 mg/L.

All PID headspace readings were below 0.5 parts per million (ppm) for System No. 1 in the First Quarter 2018.

During the First Quarter 2018, the system was running upon completion of the compressor replacement in February and routine maintenance was regularly performed. An aerobic environment in the aquifer was maintained throughout the First Quarter 2018 with dissolved oxygen concentrations gradually increasing throughout the period.

System No. 2

System No. 2 DO readings reported in the First Quarter 2018 ranged from a low of 18.95 mg/L at MP-2-1 on March 30, 2018 to a high of 32.90 mg/L at MP-2-3D on March 30, 2018. The overall average DO reading for System No. 2 in the First Quarter was 25.27 mg/L.

All PID headspace readings were below 0.5 ppm for System No. 2 in the First Quarter 2018.

During the First Quarter 2018, the system was running and routine maintenance was regularly performed. Based on the data collected during the First Quarter of 2018, System No. 2 performed as expected to create an aerobic environment in the aquifer.

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TABLES

Table 1

Summary of Field Activities: Water Level Measurements, NAPL Thickness Measurements, NAPL Recovery, and Water Quality Sampling
First Quarter 2018 [(1), (2)]
Hempstead Intersection Street Former MGP Site

Well ID	First Quarter (March 19 to 29, 2018)			NAPL Monitoring and DNAPL Recovery Events		
	Water Level	NAPL Thickness	Water Quality	March 19, 2018		
HIMW-003S	X	X				
HIMW-003I	X	X				
HIMW-003D	X	X				
HIMW-004S	X	X				
HIMW-004I	X	X				
HIMW-004D	X	X				
HIMW-005S	X	X	X			
HIMW-005I	X	X	X			
HIMW-005D	X	X	X			
HIMW-008S	X	X	X			
HIMW-008I	X	X	X			
HIMW-008D	X	X	X			
HIMW-009S	X	X				
HIMW-009I	X	X				
HIMW-009D	X	X				
HIMW-010S						
HIMW-010I						
HIMW-011S	X	X				
HIMW-011I	X	X				
HIMW-011D	X	X				
HIMW-012S	X	X	X			
HIMW-012I	X					
HIMW-012D						
HIMW-013S	X	X				
HIMW-013I	X	X	X			
HIMW-013D	X	X	X			
HIMW-014I	X	X	X			
HIMW-014D	X	X				
HIMW-015I	X	X	X			
HIMW-015D	X	X	X			
HIMW-020S	X	X	X			
HIMW-020I	X	X	X			
HIMW-021	X	X		X (monitor only)		
HIMW-022	X	X	X			
HIMW-023	X	X	X			
HIMW-024	X	X	X			
HIMW-025	X	X	X			
HIMW-026I	X	X	X			
HIMW-026D	X	X	X			
HIMW-027S	X	X	X			
HIMW-027I	X	X	X			
HIMW-028S	X	X	X			
HIMW-028I	X	X	X			

Table 1

Summary of Field Activities: Water Level Measurements, NAPL Thickness Measurements, NAPL Recovery, and Water Quality Sampling
First Quarter 2018 [(1), (2)]
Hempstead Intersection Street Former MGP Site

Well ID	First Quarter (March 19 to 29, 2018)			NAPL Monitoring and DNAPL Recovery Events		
	Water Level	NAPL Thickness	Water Quality	March 19, 2018		
PZ-02	X	X				
PZ-03	X	X				
OSMW-02	X	X				
OSMW-03	X	X				

Notes:

1 Field marked with "X" indicates that the activity was performed.

2 Blank field indicates that the activity was not performed.

Table 2
Groundwater and NAPL Measurements
First Quarter 2018
Hempstead Intersection Street Former MGP Site

Well ID	Date	Elevation of TOR	Depth to LNAPL	Depth to Water	Depth to DNAPL	Well Depth	Thickness of LNAPL	Thickness of DNAPL	Corrected Potentiometric Head (1)
		[ft bgs]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft amsl]
HIMW-003S	3/19/2018	65.00	ND	21.03	ND	24.33	0	0.00	43.97
HIMW-003I	3/19/2018	64.94	ND	21.41	ND	85.03	0	0.00	43.53
HIMW-003D	3/19/2018	65.26	ND	21.92	ND	141.95	0	0.00	43.34
HIMW-004S	3/19/2018	72.74	ND	29.38	ND	41.65	0	0.00	43.36
HIMW-004I	3/19/2018	72.78	ND	29.50	ND	90.43	0	0.00	43.28
HIMW-004D	3/19/2018	72.65	ND	30.01	ND	179.78	0	0.00	42.64
HIMW-005S	3/19/2018	67.19	ND	23.74	ND	38.92	0	0.00	43.45
HIMW-005I	3/19/2018	67.22	ND	23.95	ND	90.97	0	0.00	43.27
HIMW-005D	3/19/2018	67.22	ND	24.77	ND	138.78	0	0.00	42.45
HIMW-008S	3/19/2018	65.04	ND	21.95	ND	36.78	0	0.00	43.09
HIMW-008I	3/19/2018	65.14	ND	22.08	ND	74.75	0	0.00	43.06
HIMW-008D	3/19/2018	64.93	ND	21.89	ND	114.52	0	0.00	43.04
HIMW-009S	3/19/2018	70.03	ND	26.82	ND	39.84	0	0.00	43.21
HIMW-009I	3/19/2018	69.93	ND	26.56	ND	80.44	0	0.00	43.37
HIMW-009D	3/19/2018	69.96	ND	26.61	ND	122.97	0	0.00	43.35
HIMW-010S	3/19/2018	71.60	ND	27.26	ND	39.48	0	0.00	44.34
HIMW-010I	3/19/2018	71.47	ND	27.08	ND	89.73	0	0.00	44.39
HIMW-011S	3/19/2018	71.62	ND	27.67	ND	40.25	0	0.00	43.95
HIMW-011I	3/19/2018	71.43	ND	27.52	ND	93.19	0	0.00	43.91
HIMW-011D	3/19/2018	71.39	ND	27.52	ND	122.28	0	0.00	43.87
HIMW-012S	3/20/2018	61.58	ND	19.54	ND	33.14	0	0.00	42.04
HIMW-012I	3/20/2018	61.59	ND	19.48	ND	NM	0	NM	42.11
HIMW-012D	3/20/2018	61.82	NM	NM	NM	NM	NM	NM	NM
HIMW-013S	3/19/2018	72.83	ND	32.51	ND	48.65	0	0.00	40.32
HIMW-013I	3/19/2018	72.60	ND	32.3	ND	81.43	0	0.00	40.30
HIMW-013D	3/19/2018	72.53	ND	32.30	ND	122.02	0	0.00	40.23
HIMW-014I	3/19/2018	71.71	ND	31.41	ND	95.65	0	0.00	40.30
HIMW-014D	3/19/2018	71.59	ND	33.21	ND	151.83	0	0.00	38.38
HIMW-015I	3/19/2018	64.18	ND	26.29	ND	92.37	0	0.00	37.89
HIMW-015D	3/19/2018	63.96	ND	27.71	ND	154.12	0	0.00	36.25
HIMW-020S	3/19/2018	70.43	ND	27.78	ND	36.71	0	0.00	42.65
HIMW-020I	3/19/2018	70.30	ND	27.64	ND	75.18	0	0.00	42.66

Table 2
Groundwater and NAPL Measurements
First Quarter 2018
Hempstead Intersection Street Former MGP Site

Well ID	Date	Elevation of TOR	Depth to LNAPL	Depth to Water	Depth to DNAPL	Well Depth	Thickness of LNAPL	Thickness of DNAPL	Corrected Potentiometric Head (1)
		[ft bgs]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft amsl]
HIMW-021	3/19/2018	NM	ND	22.33	44.50	45.30	0	0.80	NM
HIMW-022	3/19/2018	74.07	ND	32.53	ND	64.38	0	0.00	41.54
HIMW-023	3/19/2018	74.41	ND	32.71	ND	74.85	0	0.00	41.70
HIMW-024	3/19/2018	59.83	ND	17.37	ND	54.90	0	0.00	42.46
HIMW-025	3/19/2018	62.75	ND	19.82	ND	52.03	0	0.00	42.93
HIMW-26I	3/19/2018	68.13	ND	25.68	ND	85.50	0	0.00	42.45
HIMW-26D	3/19/2018	68.02	ND	25.71	ND	138.90	0	0.00	42.31
HIMW-27S	3/19/2018	69.49	ND	26.83	ND	40.95	0	0.00	42.66
HIMW-27I	3/19/2018	68.96	ND	26.28	ND	70.57	0	0.00	42.68
HIMW-28S	3/19/2018	69.87	ND	27.2	ND	41.37	0	0.00	42.67
HIMW-28I	3/19/2018	69.56	ND	26.87	ND	71.48	0	0.00	42.69
PZ-02	3/19/2018	72.96	ND	28.42	ND	35.74	0	0.00	44.54
PZ-03	3/19/2018	64.58	ND	20.32	ND	29.88	0	0.00	44.26
OSMW-02	3/19/2018	71.59	ND	27.79	ND	45.12	0	0.00	43.80
OSMW-03	3/19/2018	71.39	ND	27.64	ND	45.38	0	0.00	43.75

Notes:

(1) Potentiometric heads in wells containing LNAPL are corrected using a specific gravity = 0.96

TOR top of riser
LNAPL light non-aqueous phase liquid
DNAPL dense non-aqueous phase liquid
ft bgs feet below ground surface
ft amsl feet above mean sea level
ND NAPL not detected
NM not measured

Table 3
NAPL Recovery
First Quarter 2018
Hempstead Intersection Street Former MGP Site

Well ID	Well Diameter (inches)	1st Quarter 2018		
		March 19, 2018		
		Thickness of LNAPL	Thickness of DNAPL	Volume of NAPL Removed[(1)]
		[ft]	[ft]	[gal]
HIMW-021	6	ND	0.80	0.00

Volume of NAPL Removed:	**0.00**

Total volume of NAPL recovered in the First Quarter 2018:	**0.00**
Total volume of NAPL recovered from April 2007 to First Quarter 2018:	**857.6**

Notes:

(1) Volume of product recovered was estimated by using the markings on a five gallon bucket.

LNAPL Light Non-Aqueous Phase Liquid
DNAPL Dense Non-Aqueous Phase Liquid
ND NAPL Not Detected
NM Not Measured

Table 4

Dissolved-Phase Concentrations of Total BTEX and Total PAH Compounds First Quarter 2018 Hempstead Intersection Street Former MGP Site

Well ID	First Quarter 2018 March 20 to March 29, 2018	
	BTEX [µg/L]	PAH [µg/L]
HIMW-003S		
HIMW-003I		
HIMW-003D		
HIMW-004S		
HIMW-004I		
HIMW-004D		
HIMW-005S	ND	ND
HIMW-005I	58	974
HIMW-005D	178	717
HIMW-008S	1	25
HIMW-008I	ND	ND
HIMW-008D	ND	ND
HIMW-009S		
HIMW-009I		
HIMW-009D		
HIMW-010S		
HIMW-010I		
HIMW-011S		
HIMW-011I		
HIMW-011D		
HIMW-012S	ND	ND
HIMW-012I		
HIMW-012D		
HIMW-013S		
HIMW-013I	ND	ND
HIMW-013D	1	18
HIMW-014I	2	19
HIMW-014D		
HIMW-015I	1	3
HIMW-015D	ND	ND
HIMW-020S	ND	ND
HIMW-020I	233	474
HIMW-021		
HIMW-022	ND	ND
HIMW-023	ND	ND
HIMW-024	ND	ND
HIMW-025	355	336
HIMW-026I	ND	ND
HIMW-026D	66	1,177
HIMW-027S	1,097	1,017
HIMW-027I	ND	1
HIMW-028S	154	245
HIMW-028I	ND	ND
PZ-02		
PZ-03		

Notes:

A blank field is "Not Sampled".

NAPL is periodically identified in this well.

BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
PAH	Polycyclic Aromatic Hydrocarbons
µg/L	micrograms per liter
ND	Not Detected

Table 5
Groundwater Treatment Performance Monitoring
First Quarter 2018
Hempstead Intersection Street Former MGP Site

System #1

	January 26, 2018			February 26, 2018			March 29, 2018		
ID	DTW (ft)	PID (ppm)	DO[(1)] (mg/L)	DTW (ft)	PID (ppm)	DO[(1)] (mg/L)	DTW (ft)	PID (ppm)	DO[(1)] (mg/L)
MP-1-1S	30.65	0.0	5.02	30.31	0.3	11.46	28.77	0.0	15.69
MP-1-1D	30.58	0.0	5.81	30.25	0.1	6.32	28.69	0.0	13.97
MP-1-2S	24.91	0.0	6.11	24.81	0.1	24.92	23.10	0.0	19.60
MP-1-2D	24.95	0.0	5.59	24.57	0.1	23.77	23.34	0.3	40.82
MP-1-3S	22.11	0.4	5.50	22.75	0.0	8.25	21.35	0.2	12.62
MP-1-3D	22.18	0.3	6.15	22.79	0.2	11.10	21.22	0.1	16.59
MP-1-4S	25.97	0.2	3.29	25.54	0.0	15.27	24.15	0.2	28.30
MP-1-4D	25.99	0.0	3.29	25.50	0.0	16.92	24.13	0.0	24.75
MP-1-5	30.45	0.0	5.22	30.04	0.0	9.29	28.49	0.0	11.67
MP-1-6	22.71	0.0	4.02	22.31	0.0	3.18	20.86	0.0	6.37
MP-1-7	25.99	0.0	3.14	25.52	0.0	6.57	24.15	0.0	8.52
MP-1-8	27.52	0.0	2.11	27.05	0.0	3.39	25.68	0.0	4.43

System #2

	January 24, 2018			February 26, 2018			March 30, 2018		
ID	DTW (ft)	PID (ppm)	DO[(1)] (mg/L) Bottom	DTW (ft)	PID (ppm)	DO[(1)] (mg/L) Bottom	DTW (ft)	PID (ppm)	DO[(1)] (mg/L) Bottom
MP-2-1	33.47	0.0	21.62	33.11	0.0	26.14	31.51	0.0	18.95
MP-2-2	34.80	0.0	25.29	34.43	0.0	25.97	32.85	0.0	32.10
MP-2-3S	34.64	0.1	23.12	34.27	0.2	31.11	32.76	0.0	31.46
MP-2-3D	34.79	0.3	25.00	34.44	0.3	30.23	32.89	0.4	32.90
MP-2-4	23.35	0.0	19.81	22.95	0.0	21.79	21.47	0.1	29.71
MP-2-5	21.54	0.0	20.11	21.12	0.0	19.95	20.96	0.0	19.66

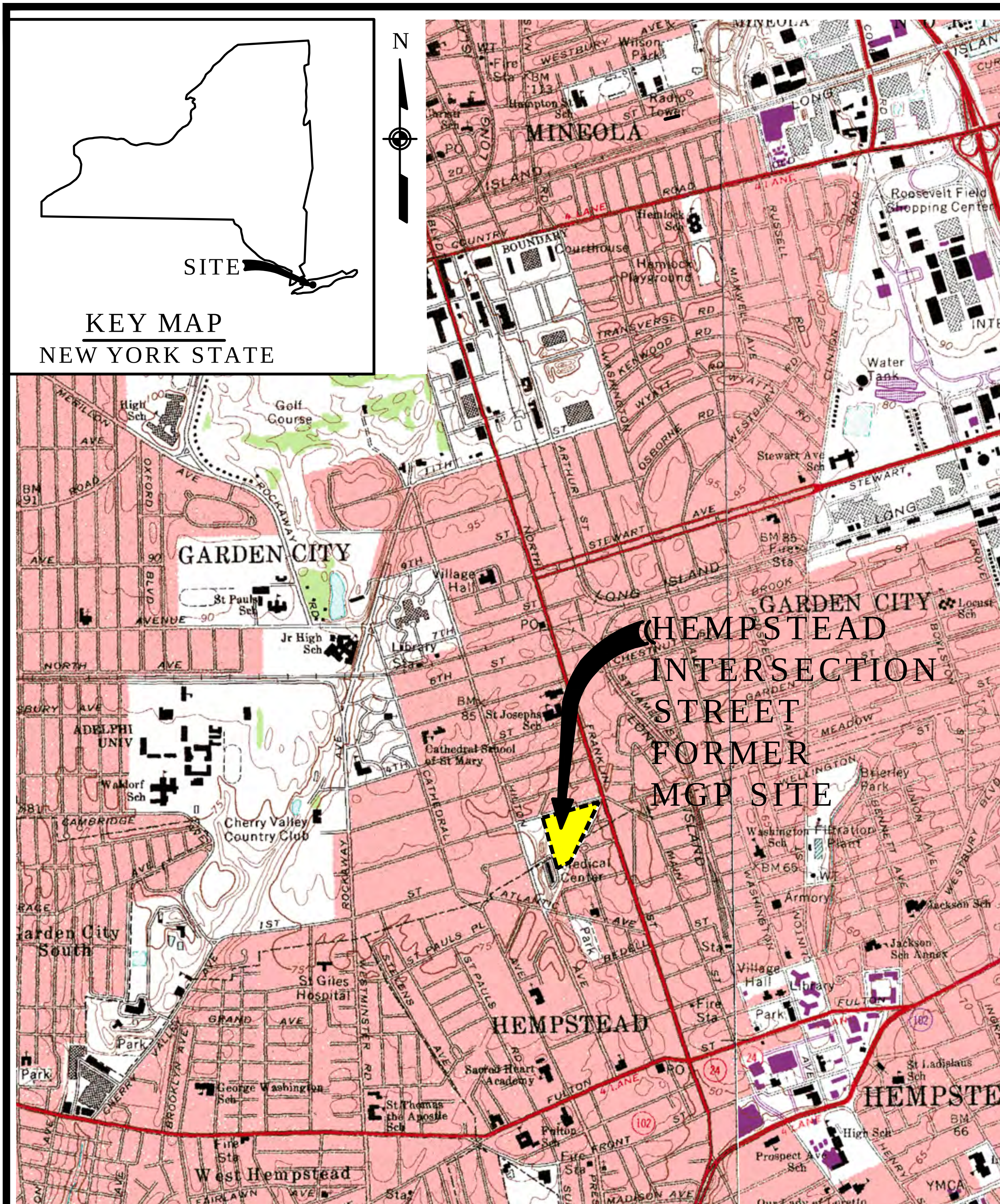
Abbreviations

DTW: Depth to water (feet)
O_2: Oxygen measurement of well headspace (percent oxygen)
PID: Photoionization Detector measurement of well headspace (parts per million)
DO: Dissolved Oxygen concentration (percent or milligrams per liter)
NA: Not Accessible
NM: Not Measured
ppm: parts per million
mg/L: milligrams per liter
ft: feet

Note

(1) DO Headspace monitor oxygen detection limit is 40.0%; normal oxygen level in air is 20.9%

FIGURES



NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

SOURCE:
USGS 7.5 MINUTE SERIES
TOPOGRAPHICAL QUANDRANGLES:
FREEPORT, NY (1969)
LYNBROOK, NY (1969)

2000' 0 2000'
SCALE IN FEET

AECOM

LOCATION MAP

FIGURE 1

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\GROUNDWATER MONITORING\3rd & 4th QUARTER 2017\FIGURE-1.dwg 1/22/18 – 1 RAL

J:\Projects\11175065.00000\DB\GIS\ARCMAP\SITE MAP 032014.mxd 3/10/2017

Legend

- Oxygen System Monitoring Point
- Abandoned Well
- Piezometer
- Monitoring Well
- Product Recovery Well
- Soil Vapor Point
- Former MGP Site Boundary

SOURCE: ESRI World Imagery

400 0 400 Feet

AECOM

NATIONAL GRID HEMPSTEAD INTERSECTION STREET FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY
SITE MAP - MARCH 2018

FIGURE 2

J:\Projects\11175065.00000\DB\GIS\ARCMAP\GROUNDWATER TREATMENT LOCATIONS (1st Qtr 2018).mxd 7/23/2018

N

INSET 1

HISB-114
MP-1-1S,1D
HISB-116
HIMW-020S,I
HISB-105
MP-1-5
HIGP-054
HISB-105-2
HIGP-053
0
200 Feet

INSET 2

HIGP-047
HISB-103
HISB-104
MP-1-4S,4D
MP-1-8
HIGP-051
HIMW-008S,I,D
HISB-102
HISB-102-2
HIGP-052
MP-1-7
MP-1-3S,3D
MP-1-6
HISB-101
HIMW-025
SEALEY
0
200 Feet

NATIONAL GRID
FORMER MGP SITE

HIVP-16
HIMW-003S,I,D
HIMW-010S,I,D
HIMW-028S,I
HIMW-027S,I
HIMW-009S,I,D
HIGP-050
HIMW-004S,I,D
HIMW-026I,D
HIGP-048
HIGP-047
MP-1-4S,D
HISB-104
HIVP-19
MP-1-8
MP-1-6
MP-1-7
HISB-100
MP-1-3S
HISB-101
MP-1-2S,D
HIMW-025
SEE INSET 1
SEE INSET 2
HISB-114
HIGP-057
MP-1-1S,D
MP-1-5
HIMW-024
HIGP-053
HIGP-055
HISB-106
HIVP-17
HIGP-056
HIMW-012S,I,D
HISB-107
MP-2-1
MP-2-5
MP-2-3S,D
MP-2-4
HIGP-068
HISB-115
MP-2-2
HIMW-023
HIGP-061
HISB-109
HIGP-049
HIMW-022
HISB-108
HIGP-064
HIGP-063
HIGP-067
HIGP-062
HIGP-059
HIGP-065
HIMW-013S,I,D
HIVP-18
HIGP-070
HIGP-066
HIMW-014I,D
HIGP-058
HIGP-069
HIGP-072
HIGP-071
HIMW-015I,D

HAMILTON PLACE
SECOND STREET
HILTON AVENUE
BARNES LANE
MEDICAL PLACE
WENDELL STREET
L.I.R.R. R.O.W.
FRANKLIN AVENUE
OLD FRANKLIN STREET
MAIN STREET
SMITH STREET
UNION PLACE
SEALEY AVENUE
ATLANTIC AVENUE
GARDEN PLACE
SAINT PAULS PLACE
KELLUM PLACE
TERRACE AVENUE
BEDELL STREET
KENSINGTON COURT
RUNDLE COURT
NORTH FRANKLIN STREET
CHELSEA PLACE
CATHEDRAL AVENUE
RYAN COURT
HILTON PLACE
CATHEDRAL COURT
JACKSON STREET
MULFORD PLACE
FULTON AVENUE
BELL STREET

Legend

- Monitoring Well/Piezometer/Recovery Well/ Oxygen System Monitoring Point
- Vapor Monitoring Location
- Abandoned Well
- Temporary Groundwater Sample Location (Taken from RI Report, 2006)
- Temporary Groundwater Sample Location (URS, 2008-2009)
- Former MGP Site Boundary
- Planned Groundwater Treatment System
- Installed Groundwater Treatment System

Estimated Extent of Groundwater Plume:

- ≥ 100 µg/L
- ≥ 1,000 µg/L
- ≥ 5,000 µg/L
- In-Situ Solidification Area
- IRM Excavation Area

Source: ESRI World Imagery

300 0 300 Feet

AECOM

NATIONAL GRID HEMPSTEAD INTERSECTION STREET FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NEW YORK
SOIL REMEDIATION AND GROUNDWATER TREATMENT LOCATIONS

FIGURE 3

HIMW–003S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
23–33	ND–36 (ND)	ND (ND)
80.5–90.5	ND–13(ND)	ND (ND)
133–143	ND–8.2(ND)	ND–30(ND)

HIMW–008S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
25–35	ND–8,240 (1)	ND–3,069(25)
63–73	ND–457 (ND)	ND–251 (ND)
102–112	ND–16 (ND)	ND–46 (ND)

HIMW–011S,I		
DEPTH	TOT. BTEX	TOT. PAHs
28–38	603–13,920	2,813–13,076
80–90	ND–49	ND–3

HIMW–014 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
85–95	2–273 (2)	19–288 (19)
140–150	ND–15 (ND)	ND–6 (ND)

HIMW–022		
DEPTH	TOT. BTEX	TOT. PAHs
54–64	ND–83 (ND)	ND–91 (ND)

HIMW–025		
DEPTH	TOT. BTEX	TOT. PAHs
42–52	ND–1,320 (355)	ND–573 (336)

HIMW–028S,I		
DEPTH	TOT. BTEX	TOT. PAHs
20–40	ND–213 (154)	10–738 (245)
50–70	ND (ND)	ND (ND)

HIMW–004S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
30–40	ND–4	ND–1
80–90	ND–13	ND
167–177	ND–4	ND–1

HIMW–009S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
28–38	ND–16	ND–8
70–80	ND–2	ND
113–123	ND–16	ND–10

HIMW–012S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
22–32	ND–338.8 (ND)	ND–1,391 (ND)
63–73	6–256	65–527
117–127	ND–6	ND–2

HIMW–015 I,D		
DEPTH	TOT. BTEX	TOT. PAHs
80–90	1–111 (1)	ND–273 (3)
141.5–151.5	ND–94 (ND)	ND–1 (ND)

HIMW–023		
DEPTH	TOT. BTEX	TOT. PAHs
66–76	ND–43 (ND)	ND–43 (ND)

HIMW–26 I, D		
DEPTH	TOT. BTEX	TOT. PAHs
65–85	ND (ND)	ND–3(ND)
115–135	14–105 (66)	118–2,138(1,177)

OSMW–02		
DEPTH	TOT. BTEX	TOT. PAHs
30–40	2,604	3,517

HIMW–005S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
27–37	ND–232 (ND)	ND–765 (ND)
80–90	50–439 (58)	891–5,337 (974)
130–140	ND–359 (178)	ND–2,698 (717)

HIMW–010S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
28–38	ND–33	1–150
80.5–90.5	ND–13	ND
112.5–132.5	ND–16	ND

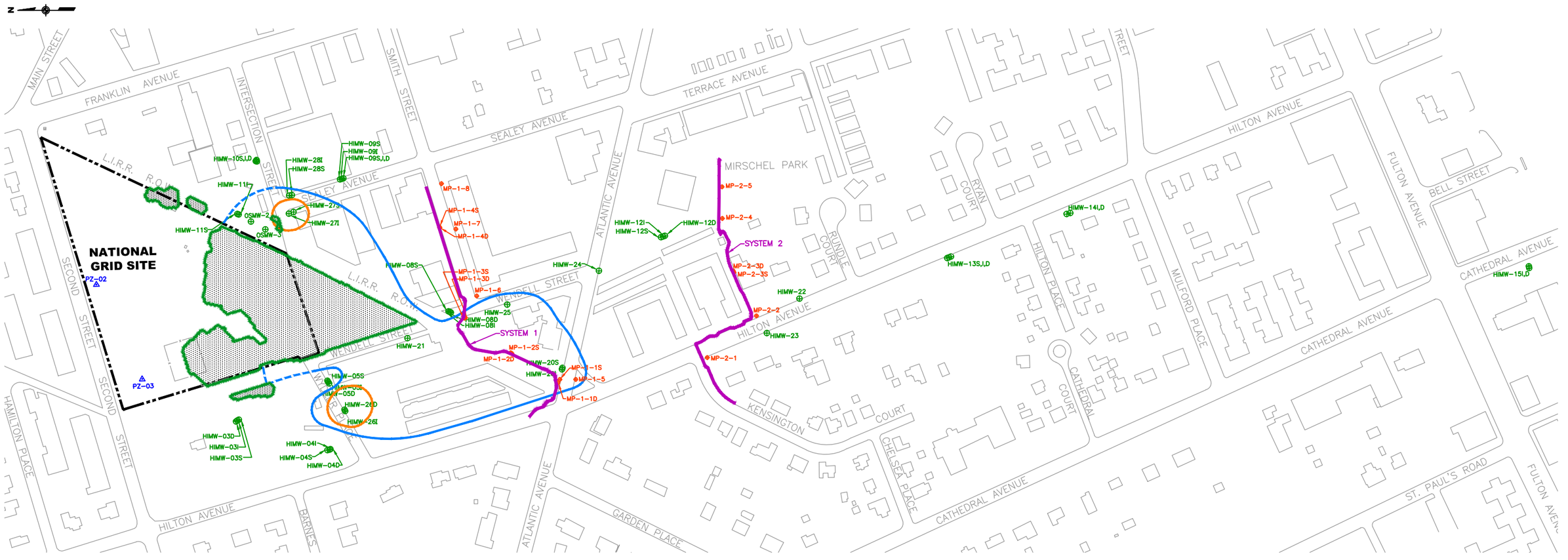
HIMW–013S,I,D		
DEPTH	TOT. BTEX	TOT. PAHs
38–48	ND–11(ND)	ND (ND)
70–80	ND–313 (ND)	ND–156 (ND)
110–120	1–30 (1)	ND–28 (18)

HIMW–020S,I		
DEPTH	TOT. BTEX	TOT. PAHs
25–35	ND–3 (ND)	ND–5 (ND)
63–73	ND–474 (233)	ND–3,968 (474)

HIMW–024		
DEPTH	TOT. BTEX	TOT. PAHs
44.6–54.6	ND–900 (ND)	ND–1,024(ND)

HIMW–027S, I		
DEPTH	TOT. BTEX	TOT. PAHs
20–40	447–1,967(1,097)	695–1,884(1,017)
50–70	ND–2 (ND)	ND–17 (1)

OSMW–03		
DEPTH	TOT. BTEX	TOT. PAHs
29–39	4,301	2,911



HIMW–13 ⊕ MONITORING WELL
PZ–02 △ PIEZOMETER
MP–2–1 ⊕ OXYGEN SYSTEM MONITORING WELL
NA NOT ANALYZED
ND NOT DETECTED

LOCATION ID → HIMW–024
DEPTH (ft bgs) →

DEPTH	TOT. BTEX	TOT. PAHs
44.6–54.6	ND–900 (ND)	ND–1,024 (ND)

← CONCENTRATION UNITS ARE ug/L (MARCH 2018 CONCENTRATION)

* SOME LOCATIONS ON SITE AND ADJACENT TO SITE ARE NOT SHOWN FOR FIGURE CLARITY.

LEGEND:

- EXISTING HOUSE OR BUILDING
- NATIONAL GRID PROPERTY BOUNDARY
- ESTIMATED EXTENT OF GROUNDWATER PLUME AS DEFINED BY TOTAL BTEX OR TOTAL PAH CONCENTRATIONS EQUAL TO OR GREATER THAN 1,000 ug/L
- ESTIMATED EXTENT OF GROUNDWATER PLUME AS DEFINED BY TOTAL BTEX OR TOTAL PAH CONCENTRATIONS EQUAL TO OR GREATER THAN 100 ug/L
- ESTIMATED EXTENT OF GROUNDWATER PLUME AS DEFINED BY TOTAL BTEX OR TOTAL PAH CONCENTRATIONS. DASHED LINES REPRESENT CONTAMINATION CONCENTRATIONS THAT ARE LIKELY INFLUENCED BY THIRD PARTY SOURCES.
- INSTALLED GROUNDWATER TREATMENT SYSTEM
- LIMIT OF MGP SOURCE MATERIAL TREATMENT

150' 0 150'
SCALE IN FEET

AECOM

NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

1Q18 EXTENT OF DISSOLVED-PHASE PLUME AND GROUNDWATER ANALYTICAL RESULTS - MARCH 2018

FIGURE 4

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\GROUNDWATER MONITORING\FIRST QUARTER 2018\FIGURE 4.dwg 7/26/18 – 5 RAL

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2018\FIGURE 5.dwg 7/24/18 - 1 RAL

N

PZ-02, 44.54

PZ-03, 44.26

NATIONAL GRID
FORMER MGP SITE

HIMW-03S, 43.97

OSMW-3, 43.75

HIMW-11S, 43.95

HIMW-10S, 44.34

OSMW-2, 43.80

HIMW-28S, 42.67

HIMW-09S, 43.21

HIMW-04S, 43.36

HIMW-05S, 43.45

HIMW-27S, 42.66

HIMW-8S, 43.09

HIMW-20S, 42.65

HIMW-12S, 42.04

HIMW-13S, 40.32

43.5

44.0

43.5

43.0

42.5

42.0

41.5

41.0

40.5

SECOND STREET
HILTON AVENUE
BARNES LANE
WYDLER PLACE
WENDELL STREET
L.I.R.R. R.O.W.
SEALEY AVENUE
SMITH STREET
FRANKLIN AVENUE
MAIN STREET
OLD FRANKLIN STREET
MEADOW PLACE
STOWE PLACE
SAMMIS PLACE
MILLER PLACE
UNION PLACE
INTERSECTION STREET
ATLANTIC AVENUE
GARDEN PLACE
KENSINGTON COURT
CATHEDRAL AVENUE
CHELSEA PLACE
CATHEDRAL COURT
HILTON PLACE
KELLUM PLACE
MIRSCHEL PARK
TERRACE AVENUE
MARGARET COURT
BEDELL STREET
RUNDLE COURT
RYAN COURT
JACKSON STREET
NORTH FRANKLIN STREET
WEST COLUMBIA ST
MULFORD PLACE
FULTON AVENUE
BELL STREET
ST. PAUL'S

LEGEND:

- MONITORING WELL
- IPR WELL
- PIEZOMETER
- GROUNDWATER FLOW DIRECTION
- 44 — POTENTIOMETRIC SURFACE CONTOUR
- FORMER MGP SITE BOUNDARY
- HIMW-8S, 43.09 — LOCATION ID AND GROUNDWATER ELEV. (FT. AMSL)
- NM — NOT MEASURED DURING THIS SAMPLING EVENT

300' 0 300'
SCALE IN FEET

NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

AECOM

HEMPSTEAD/GARDEN CITY, NY
1Q18 POTENTIOMETRIC SURFACE MAP FOR SHALLOW GROUNDWATER, MARCH 19, 2018

FIGURE 5

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2018\FIGURE 6.dwg 7/24/18 - 3 RAL

N

NATIONAL GRID
FORMER MGP SITE

L.I.R.R. R.O.W.

HIMW-03I, 43.53
HIMW-05I, 43.27
HIMW-04I, 43.28
HIMW-26I, 42.45
HIMW-27I, 42.68
HIMW-11I, 43.91
HIMW-10I, 44.39
HIMW-28I, 42.69
HIMW-09I, 43.37
HIMW-08I, 43.06
HIMW-25, 42.93
HIMW-20I, 42.66
HIMW-24, 42.46
HIMW-12I, 42.11
HIMW-23, 41.70
HIMW-22, 41.54
HIMW-13I, 40.30
HIMW-14I, 40.30
HIMW-15I, 37.89

43.5
44.0
42.5
43.0
42.5
42.0
41.5
41.0
40.5
40.0
39.5
39.0
38.5
38.0

SECOND STREET
HILTON AVENUE
BARNES LANE
WYDER PLACE
WENDELL STREET
FRANKLIN AVENUE
OLD FRANKLIN STREET
STOWE PLACE
SAMMIS PLACE
MAIN STREET
MILLER PLACE
UNION PLACE
INTERSECTION STREET
SEALEY AVENUE
SMITH STREET
ATLANTIC AVENUE
GARDEN PLACE
KENSINGTON COURT
CATHEDRAL AVENUE
CHELSEA PLACE
RUNDLE COURT
RYAN COURT
CATHEDRAL COURT
HILTON PLACE
MIRSCHEL PARK
TERRACE AVENUE
MARGARET COURT
BEDELL STREET
NORTH FRANKLIN STREET
WEST COLUMBIA
KELLUM PLACE
JACKSON STREET
MULFORD PLACE
FULTON AVENUE
BELL STREET
ST. PAUL'S

LEGEND:

- MONITORING WELL
- IPR WELL
- GROUNDWATER FLOW DIRECTION
- 44 POTENTIOMETRIC SURFACE CONTOUR
- FORMER MGP SITE BOUNDARY
- HIMW-08I, 43.06 LOCATION ID AND GROUNDWATER ELEV. (FT. AMSL)
- NM NOT MEASURED DURING THIS SAMPLING EVENT

300' 0 300'
SCALE IN FEET

NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

AECOM

HEMPSTEAD/GARDEN CITY, NY
1Q18 POTENTIOMETRIC SURFACE MAP FOR INTERMEDIATE GROUNDWATER, MARCH 19, 2018

FIGURE 6

J:\Projects\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\SITE-WIDE REMEDY\GROUNDWATER TREATMENT\MARCH 2018\FIGURE 7.dwg 7/24/18 - 2 RAL

N

NATIONAL GRID
FORMER MGP SITE

HIMW-03D, 43.34
HIMW-11D, 43.87
HIMW-05D, 42.45
HIMW-04D, 42.64
HIMW-09D, 43.35
HIMW-26D, 42.31
HIMW-08D, 43.04
HIMW-12D, NM
HIMW-13D, 40.23
HIMW-14D, 38.38
HIMW-15D, 36.25

43.5
43.0
42.5
42.0
41.5
41.0
40.5
40.0
39.5
39.0
38.5
38.0
37.5
37.0
36.5

SECOND STREET
HILTON AVENUE
BARNES LANE
WYDLER PLACE
WENDELL STREET
L.I.R.R. R.O.W.
INTERSECTION STREET
SEALEY AVENUE
FRANKLIN AVENUE
MAIN STREET
OLD FRANKLIN STREET
MEADOW PLACE
STOWE PLACE
SAMMIS PLACE
MILLER PLACE
UNION PLACE
SMITH STREET
ATLANTIC AVENUE
GARDEN PLACE
KENSINGTON COURT
CHELSEA PLACE
CATHEDRAL AVENUE
MIRSCHEL PARK
TERRACE AVENUE
MARGARET COURT
BEDELL STREET
NORTH FRANKLIN STREET
WEST COLUMBIA
KELLUM PLACE
BUNDLE COURT
RYAN COURT
CATHEDRAL COURT
HILTON PLACE
MULFORD PLACE
JACKSON STREET
FULTON AVENUE
BELL STREET
ST. PAUL'S

LEGEND:

⊕	MONITORING WELL
→	GROUNDWATER FLOW DIRECTION
43	POTENTIOMETRIC SURFACE CONTOUR
— - - —	FORMER MGP SITE BOUNDARY
HIMW-14D, 38.38	LOCATION ID AND GROUNDWATER ELEV. (FT. AMSL)
NM	NOT MEASURED DURING THIS SAMPLING EVENT

300' 0 300'
SCALE IN FEET

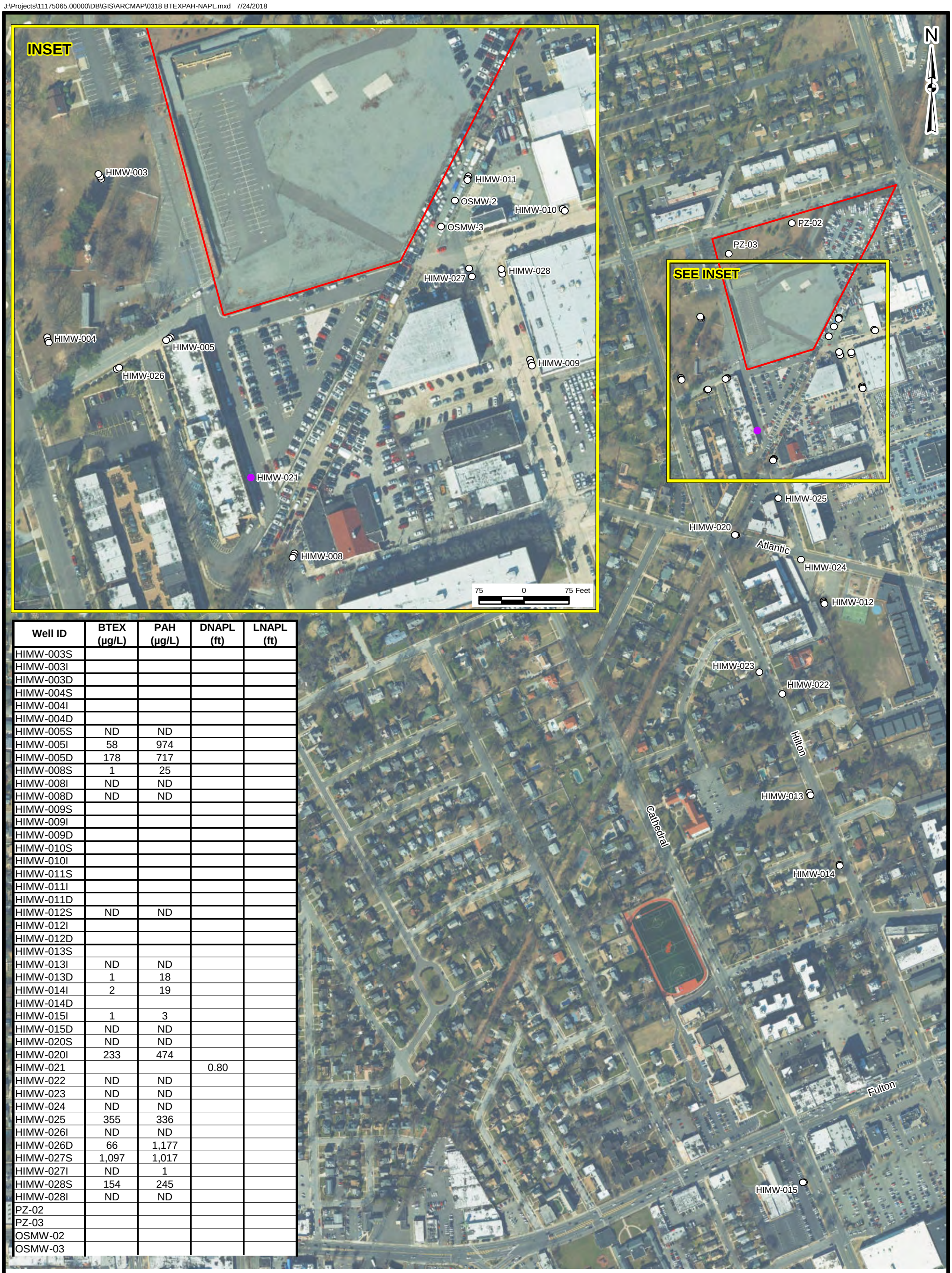
NATIONAL GRID
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
HEMPSTEAD/GARDEN CITY, NY

AECOM

HEMPSTEAD/GARDEN CITY, NY
1Q18 POTENTIOMETRIC SURFACE MAP FOR DEEP GROUNDWATER, MARCH 19, 2018

FIGURE 7

J:\Projects\11175065.00000\DB\GIS\ARCMAP\0318 BTEXPAH-NAPL.mxd 7/24/2018



Well ID	BTEX (µg/L)	PAH (µg/L)	DNAPL (ft)	LNAPL (ft)
HIMW-003S				
HIMW-003I				
HIMW-003D				
HIMW-004S				
HIMW-004I				
HIMW-004D				
HIMW-005S	ND	ND		
HIMW-005I	58	974		
HIMW-005D	178	717		
HIMW-008S	1	25		
HIMW-008I	ND	ND		
HIMW-008D	ND	ND		
HIMW-009S				
HIMW-009I				
HIMW-009D				
HIMW-010S				
HIMW-010I				
HIMW-011S				
HIMW-011I				
HIMW-011D				
HIMW-012S	ND	ND		
HIMW-012I				
HIMW-012D				
HIMW-013S				
HIMW-013I	ND	ND		
HIMW-013D	1	18		
HIMW-014I	2	19		
HIMW-014D				
HIMW-015I	1	3		
HIMW-015D	ND	ND		
HIMW-020S	ND	ND		
HIMW-020I	233	474		
HIMW-021			0.80	
HIMW-022	ND	ND		
HIMW-023	ND	ND		
HIMW-024	ND	ND		
HIMW-025	355	336		
HIMW-026I	ND	ND		
HIMW-026D	66	1,177		
HIMW-027S	1,097	1,017		
HIMW-027I	ND	1		
HIMW-028S	154	245		
HIMW-028I	ND	ND		
PZ-02				
PZ-03				
OSMW-02				
OSMW-03				

Source: ESRI World Imagery

Legend

- Monitoring Well - Product Detected
- Monitoring Well - Product Not Detected
- Former MGP Site Boundary

Notes:

LOCID - Location Identifier
BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes
PAH - Polynuclear Aromatic Hydrocarbons
DNAPL - Dense Non-Aqueous Phase Liquid
LNAPL - Light Non-Aqueous Phase Liquid
µg/L - Micrograms per Liter
ft - Feet of Product Thickness
ND - Non Detect

400 0 400 Feet

AECOM

HEMPSTEAD/GARDEN CITY, NY
TOTAL DISSOLVED-PHASE BTEX/PAH CONCENTRATIONS
FIRST QUARTER 2018

FIGURE 8

APPENDIX A

DATA USABILITY SUMMARY REPORT

(Provided in Electronic Format Only)

APPENDIX A
DATA USABILITY SUMMARY REPORT
FIRST QUARTER 2018

HEMPSTEAD INTERSECTION STREET FORMER MGP SITE
VILLAGES OF GARDEN CITY AND HEMPSTEAD
LONG ISLAND, NEW YORK

Analyses Performed by:
PACE ANALYTICAL

Prepared For:

NATIONAL GRID
175 EAST OLD COUNTRY RD.
HICKSVILLE, NY 11801

Prepared by:

AECOM USA, INC.
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NY 14202-2657

July 2018

TABLE OF CONTENTS

TABLES
(Following Text)

APPENDICES
(Following Tables)

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for Data Deliverables and Development of Data Usability Summary Reports*, May 2010.

This DUSR discusses the usability of the analytical data for twenty-four (24) groundwater samples, two (2) field duplicates, one (1) matrix spike/matrix spike duplicate (MS/MSD) pair, one (1) field blank, and four (4) trip blanks collected by AECOM personnel on March 20-29, 2018. The groundwater samples were collected as part of the 2018 1st quarter groundwater monitoring event at the Hempstead Intersection Street Former MGP Site.

II. ANALYTICAL METHODOLOGIES AND DATA VALIDATION

The samples were analyzed by Pace Analytical for the following parameters:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) – USEPA Method SW8260C and
- Polynuclear aromatic hydrocarbons (PAHs) – USEPA Method SW8270D.

A limited data validation was performed on the samples in accordance with the guidelines presented in the following USEPA Region II documents:

- *Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B & 8260C, SOP HW-24, Rev. 4*, October 2014 and

- *Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8270D, SOP HW-22, Rev. 5*, January 2011.

The limited data validation included a review of completeness of all required deliverables; holding times; quality control (QC) results (instrument tunes, calibration standards, blanks, matrix spike recoveries, field duplicate analyses, laboratory control sample (LCS) recoveries, and surrogate/internal standard

recoveries) to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

The validated analytical results are presented in Tables A-1 and A-2. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Copies of the chain-of-custodies, case narratives, and documentation supporting the qualification of data are presented in Attachment B. Only problems affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

Full deliverable data packages (i.e., NYSDEC ASP Category B or equivalent) were provided by the laboratory, and included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

IV. SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC). All samples were analyzed within the required holding times.

V. NON-CONFORMANCES

The PAH MS/MSD analyses associated with sample HIMW-26D exhibited negative percent recoveries (%Rs) exceedances for naphthalene and 2-methylnaphthalene. This was a result of high native levels of these PAHs in the parent sample (i.e., 177 ppb and 891 ppb, respectively) versus the matrix spiking level of 50 ppb. Therefore, no further qualification of the data was deemed necessary.

VI. SAMPLE RESULTS AND REPORTING

All sample results were reported in accordance with method requirements and were adjusted for sample size and dilution factors. Results detected below the quantitation limits were qualified 'J' by the laboratory, while results reported from secondary dilution analyses were qualified 'D'.

Field duplicates were collected from monitoring well locations HIMW-05I and HIMW-27S, which exhibited good field and analytical precision.

VII. SUMMARY

All sample analyses were found to be compliant with the method and validation criteria, and the data are usable as reported. AECOM does not recommend the re-collection of any samples at this time.

Prepared By: Peter R. Fairbanks **Date:** 7/19/18
Peter R. Fairbanks, Senior Chemist

Reviewed By: _____ **Date:** 7/19/18
George E. Kisluk, Senior Chemist

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

D – The sample results are reported from a separate secondary dilution analysis.

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-005D	HIMW-005I	HIMW-005I	HIMW-005S	HIMW-008D
Sample ID			HIMW-05D	DUP-032718	HIMW-05I	HIMW-05S	HIMW-08D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/27/18	03/27/18	03/27/18	03/28/18	03/20/18
Parameter	**Units**	*		Field Duplicate (1-1)			
Volatile Organic Compounds							
Benzene	UG/L	-	2.2	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	UG/L	-	1.8	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	UG/L	-	15.0	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	UG/L	-	159	59.6	58.4	3.0 U	3.0 U
Total BTEX	UG/L	100	178	59.6	58.4	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	121 D	157 D	158 D	5.0 U	5.0 U
Acenaphthene	UG/L	-	3.0 J	11.3	10.9	5.0 U	5.0 U
Acenaphthylene	UG/L	-	41.1	162 D	156 D	5.0 U	5.0 U
Anthracene	UG/L	-	5.0 U	2.4 J	2.3 J	5.0 U	5.0 U
Benzo(a)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chrysene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	UG/L	-	6.8	26.3	27.8	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	UG/L	-	544 D	655 D	601 D	5.0 U	5.0 U
Phenanthrene	UG/L	-	1.1 J	18.3	17.6	5.0 U	5.0 U
Pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	717	1,032.3	973.6	ND	ND

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value. ND - Not Detected.

U - Not detected above the reported quantitation limit.

Made By_PRF 07/19/18_; Checked By_GEK 07/19/18

Detection Limits shown are PQL

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Printed: 7/19/2018 1:25:30 PM
[LOGDATE] >= #3/20/2018# AND [MATRIX] = 'WG'

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-008I	HIMW-008S	HIMW-012S	HIMW-013D	HIMW-013I
Sample ID			HIMW-08I	HIMW-08S	HIMW-12S	HIMW-13D	HIMW-13I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/20/18	03/20/18	03/20/18	03/23/18	03/23/18
Parameter	**Units**	*					
Volatile Organic Compounds							
Benzene	UG/L	-	1.0 U	0.99 J	1.0 U	1.0	1.0 U
Ethylbenzene	UG/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	UG/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	UG/L	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Total BTEX	UG/L	100	ND	0.99	ND	1	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	5.0 U	1.8 J	5.0 U	5.0 U	5.0 U
Acenaphthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.9	5.0 U
Acenaphthylene	UG/L	-	5.0 U	6.4	5.0 U	11.8	5.0 U
Anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	UG/L	-	5.0 U	2.1 J	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	UG/L	-	5.0 U	4.5 J	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chrysene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	UG/L	-	5.0 U	1.3 J	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-cd)pyrene	UG/L	-	5.0 U	3.3 J	5.0 U	5.0 U	5.0 U
Naphthalene	UG/L	-	5.0 U	1.3 J	5.0 U	5.0 U	5.0 U
Phenanthrene	UG/L	-	5.0 U	2.3 J	5.0 U	5.0 U	5.0 U
Pyrene	UG/L	-	5.0 U	1.7 J	5.0 U	5.0 U	5.0 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	24.7	ND	17.7	ND

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value. ND - Not Detected.

U - Not detected above the reported quantitation limit.

Made By_PRF 07/19/18_; Checked By_GEK 07/19/18

Detection Limits shown are PQL

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-014I	HIMW-015D	HIMW-015I	HIMW-020I	HIMW-020S
Sample ID			HIMW-14I	HIMW-15D	HIMW-15I	HIMW-20I	HIMW-20S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/20/18	03/26/18	03/26/18	03/22/18	03/22/18
Parameter	**Units**	*					
Volatile Organic Compounds							
Benzene	UG/L	-	2.1	1.0 U	1.0	2.7	1.0 U
Ethylbenzene	UG/L	-	1.0 U	1.0 U	1.0 U	35.5	1.0 U
Toluene	UG/L	-	1.0 U	1.0 U	1.0 U	34.1	1.0 U
Xylene (total)	UG/L	-	3.0 U	3.0 U	3.0 U	161	3.0 U
Total BTEX	UG/L	100	2.1	ND	1	233.3	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	5.0 U	5.0 U	5.0 U	4.7 J	5.0 U
Acenaphthene	UG/L	-	6.1	5.0 U	5.0 U	9.0	5.0 U
Acenaphthylene	UG/L	-	8.5	5.0 U	3.0 J	103 D	5.0 U
Anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	2.8 J	5.0 U
Benzo(a)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chrysene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	UG/L	-	2.1 J	5.0 U	5.0 U	17.7	5.0 U
Indeno(1,2,3-cd)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	UG/L	-	5.0 U	5.0 U	5.0 U	323 D	5.0 U
Phenanthrene	UG/L	-	2.4 J	5.0 U	5.0 U	13.8	5.0 U
Pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	19.1	ND	3	474	ND

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value. ND - Not Detected.

U - Not detected above the reported quantitation limit.

Made By_PRF 07/19/18_; Checked By_GEK 07/19/18

Detection Limits shown are PQL

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Printed: 7/19/2018 1:25:30 PM
[LOGDATE] >= #3/20/2018# AND [MATRIX] = 'WG'

TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-022	HIMW-023	HIMW-024	HIMW-025	HIMW-026D
Sample ID			HIMW-22	HIMW-23	HIMW-24	HIMW-25	HIMW-26D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/22/18	03/26/18	03/26/18	03/23/18	03/28/18
Parameter	**Units**	*					
Volatile Organic Compounds							
Benzene	UG/L	-	1.0 U	1.0 U	1.0 U	272 D	1.0 U
Ethylbenzene	UG/L	-	1.0 U	1.0 U	1.0 U	2.7	1.0 U
Toluene	UG/L	-	1.0 U	1.0 U	1.0 U	1.8	1.0 U
Xylene (total)	UG/L	-	3.0 U	3.0 U	3.0 U	78.3	65.9
Total BTEX	UG/L	100	ND	ND	ND	354.8	65.9
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	5.0 U	5.0 U	5.0 U	4.4 J	177 D
Acenaphthene	UG/L	-	5.0 U	5.0 U	5.0 U	1.4 J	5.7
Acenaphthylene	UG/L	-	5.0 U	5.0 U	5.0 U	16.2	69.0
Anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	1.2 J
Benzo(a)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chrysene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluorene	UG/L	-	5.0 U	5.0 U	5.0 U	1.6 J	16.3
Indeno(1,2,3-cd)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	UG/L	-	5.0 U	5.0 U	5.0 U	312 D	891 D
Phenanthrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	16.5
Pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	ND	ND	335.6	1,176.7

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value. ND - Not Detected.

U - Not detected above the reported quantitation limit.

Made By_PRF 07/19/18_; Checked By_GEK 07/19/18

Detection Limits shown are PQL

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TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-026I	HIMW-027I	HIMW-027S	HIMW-027S	HIMW-028I
Sample ID			HIMW-26I	HIMW-27I	DUP032818	HIMW-27S	HIMW-28I
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/29/18	03/29/18	03/28/18	03/28/18	03/27/18
Parameter	**Units**	*			Field Duplicate (1-1)		
Volatile Organic Compounds							
Benzene	UG/L	-	1.0 U	1.0 U	16.5	16.7	1.0 U
Ethylbenzene	UG/L	-	1.0 U	1.0 U	560 D	563 D	1.0 U
Toluene	UG/L	-	1.0 U	1.0 U	25.4	24.8	1.0 U
Xylene (total)	UG/L	-	3.0 U	3.0 U	493 D	492 D	3.0 U
Total BTEX	UG/L	100	ND	ND	1,094.9	1,096.5	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	5.0 U	5.0 U	242 D	206 D	5.0 U
Acenaphthene	UG/L	-	5.0 U	5.0 U	69.3	71.9	5.0 U
Acenaphthylene	UG/L	-	5.0 U	5.0 U	4.5 J	4.7 J	5.0 U
Anthracene	UG/L	-	5.0 U	5.0 U	9.0	9.7	5.0 U
Benzo(a)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(g,h,i)perylene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chrysene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibenz(a,h)anthracene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Fluoranthene	UG/L	-	5.0 U	5.0 U	2.5 J	2.4 J	5.0 U
Fluorene	UG/L	-	5.0 U	5.0 U	36.1	37.6	5.0 U
Indeno(1,2,3-cd)pyrene	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	UG/L	-	5.0 U	5.0 U	684 D	634 D	5.0 U
Phenanthrene	UG/L	-	5.0 U	1.1 J	45.5	47.4	5.0 U
Pyrene	UG/L	-	5.0 U	5.0 U	2.9 J	3.2 J	5.0 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	ND	1.1	1,095.8	1,016.9	ND

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value. ND - Not Detected.

U - Not detected above the reported quantitation limit.

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Detection Limits shown are PQL

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TABLE A-1
VALIDATED GROUNDWATER SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HIMW-028S
Sample ID			HIMW-28S
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			03/27/18
Parameter	**Units**	*	
Volatile Organic Compounds			
Benzene	UG/L	-	2.4
Ethylbenzene	UG/L	-	138
Toluene	UG/L	-	1.8
Xylene (total)	UG/L	-	11.7
Total BTEX	UG/L	100	153.9
Semivolatile Organic Compounds			
2-Methylnaphthalene	UG/L	-	22.5
Acenaphthene	UG/L	-	24.7
Acenaphthylene	UG/L	-	1.3 J
Anthracene	UG/L	-	2.9 J
Benzo(a)anthracene	UG/L	-	5.0 U
Benzo(a)pyrene	UG/L	-	5.0 U
Benzo(b)fluoranthene	UG/L	-	5.0 U
Benzo(g,h,i)perylene	UG/L	-	5.0 U
Benzo(k)fluoranthene	UG/L	-	5.0 U
Chrysene	UG/L	-	5.0 U
Dibenz(a,h)anthracene	UG/L	-	5.0 U
Fluoranthene	UG/L	-	5.0 U
Fluorene	UG/L	-	14.2
Indeno(1,2,3-cd)pyrene	UG/L	-	5.0 U
Naphthalene	UG/L	-	164 D
Phenanthrene	UG/L	-	15.8
Pyrene	UG/L	-	5.0 U
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	245.4

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

D - Result reported from a secondary dilution analysis.

J - The reported concentration is an estimated value. ND - Not Detected.

U - Not detected above the reported quantitation limit.

Made By_PRF 07/19/18_; Checked By_GEK 07/19/18

Detection Limits shown are PQL

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[LOGDATE] >= #3/20/2018# AND [MATRIX] = 'WG'

TABLE A-2
VALIDATED FIELD QC SAMPLE ANALYTICAL RESULTS
NATIONAL GRID - HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			FIELDQC	FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID			TB20180322	TB20180323	TB2018032718	FB20180329	TB20180329
Matrix			Water Quality	Water Quality	Water Quality	Water Quality	Water Quality
Depth Interval (ft)			-	-	-	-	-
Date Sampled			03/22/18	03/23/18	03/27/18	03/29/18	03/29/18
Parameter	**Units**	*	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)	Field Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds							
Benzene	UG/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	UG/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	UG/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	UG/L	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Total BTEX	UG/L	100	ND	ND	ND	ND	ND
Semivolatile Organic Compounds							
2-Methylnaphthalene	UG/L	-	NA	NA	NA	5.0 U	NA
Acenaphthene	UG/L	-	NA	NA	NA	5.0 U	NA
Acenaphthylene	UG/L	-	NA	NA	NA	5.0 U	NA
Anthracene	UG/L	-	NA	NA	NA	5.0 U	NA
Benzo(a)anthracene	UG/L	-	NA	NA	NA	5.0 U	NA
Benzo(a)pyrene	UG/L	-	NA	NA	NA	5.0 U	NA
Benzo(b)fluoranthene	UG/L	-	NA	NA	NA	5.0 U	NA
Benzo(g,h,i)perylene	UG/L	-	NA	NA	NA	5.0 U	NA
Benzo(k)fluoranthene	UG/L	-	NA	NA	NA	5.0 U	NA
Chrysene	UG/L	-	NA	NA	NA	5.0 U	NA
Dibenz(a,h)anthracene	UG/L	-	NA	NA	NA	5.0 U	NA
Fluoranthene	UG/L	-	NA	NA	NA	5.0 U	NA
Fluorene	UG/L	-	NA	NA	NA	5.0 U	NA
Indeno(1,2,3-cd)pyrene	UG/L	-	NA	NA	NA	5.0 U	NA
Naphthalene	UG/L	-	NA	NA	NA	5.0 U	NA
Phenanthrene	UG/L	-	NA	NA	NA	5.0 U	NA
Pyrene	UG/L	-	NA	NA	NA	5.0 U	NA
Total Polynuclear Aromatic Hydrocarbons	UG/L	100	NA	NA	NA	ND	NA

*- Goundwater Plume Delineation/Design Criteria, Pre-Design Investigation Work Plan for In-Situ Solidification for the Hempstead Intersection Street Former MGP Site, Appendix E, Final, URS 2008.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

NA - The sample was not analyzed for this parameter. ND - Not detected.
U - Not detected above the reported quantitation limit.
Made By_PRF 07/19/18_; Checked By_GEK 07/19/18

Detection Limits shown are PQL

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ATTACHMENT A

VALIDATED FORM 1'S

Pace Analytical®
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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-05S **Lab ID: 7046598011** Collected: 03/28/18 08:00 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:33	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	43	%	35-114	1	03/30/18 10:00	04/02/18 20:33	4165-60-0	
2-Fluorobiphenyl (S)	50	%	43-116	1	03/30/18 10:00	04/02/18 20:33	321-60-8	
p-Terphenyl-d14 (S)	67	%	33-141	1	03/30/18 10:00	04/02/18 20:33	1718-51-0	
Phenol-d5 (S)	25	%	10-110	1	03/30/18 10:00	04/02/18 20:33	4165-62-2	
2-Fluorophenol (S)	35	%	21-110	1	03/30/18 10:00	04/02/18 20:33	367-12-4	
2,4,6-Tribromophenol (S)	78	%	10-123	1	03/30/18 10:00	04/02/18 20:33	118-79-6	
2-Chlorophenol-d4 (S)	48	%	33-110	1	03/30/18 10:00	04/02/18 20:33	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	40	%	16-110	1	03/30/18 10:00	04/02/18 20:33	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 19:41	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 19:41	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 19:41	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 19:41	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		04/02/18 19:41	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 19:41	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 19:41	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-05I **Lab ID: 7046598006** Collected: 03/27/18 09:50 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**10.9**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	83-32-9	
Acenaphthylene	**156** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 14:07	208-96-8	
Anthracene	**2.3J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	206-44-0	
Fluorene	**27.8**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	193-39-5	
2-Methylnaphthalene	**158** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 14:07	91-57-6	
Naphthalene	**601** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 14:07	91-20-3	
Phenanthrene	**17.6**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:45	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	57	%	35-114	1	03/30/18 10:00	04/02/18 18:45	4165-60-0	
2-Fluorobiphenyl (S)	69	%	43-116	1	03/30/18 10:00	04/02/18 18:45	321-60-8	
p-Terphenyl-d14 (S)	63	%	33-141	1	03/30/18 10:00	04/02/18 18:45	1718-51-0	
Phenol-d5 (S)	27	%	10-110	1	03/30/18 10:00	04/02/18 18:45	4165-62-2	
2-Fluorophenol (S)	42	%	21-110	1	03/30/18 10:00	04/02/18 18:45	367-12-4	
2,4,6-Tribromophenol (S)	93	%	10-123	1	03/30/18 10:00	04/02/18 18:45	118-79-6	
2-Chlorophenol-d4 (S)	59	%	33-110	1	03/30/18 10:00	04/02/18 18:45	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	54	%	16-110	1	03/30/18 10:00	04/02/18 18:45	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 18:00	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 18:00	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 18:00	108-88-3	
Xylene (Total)	**58.4**	ug/L	3.0	1		04/02/18 18:00	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%	68-153	1		04/02/18 18:00	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		04/02/18 18:00	460-00-4	
Toluene-d8 (S)	94	%	69-124	1		04/02/18 18:00	2037-26-5	

7/9/18

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: DUP-032718 (HIMW-05I) **Lab ID: 7046598009** Collected: 03/27/18 12:00 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**11.3**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	83-32-9	
Acenaphthylene	**162**	ug/L	50.0	10	03/30/18 10:00	04/03/18 15:01	208-96-8	D
Anthracene	**2.4J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	206-44-0	
Fluorene	**26.3**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	193-39-5	
2-Methylnaphthalene	**157**	ug/L	50.0	10	03/30/18 10:00	04/03/18 15:01	91-57-6	D
Naphthalene	**655**	ug/L	50.0	10	03/30/18 10:00	04/03/18 15:01	91-20-3	D
Phenanthrene	**18.3**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 20:06	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	54	%	35-114	1	03/30/18 10:00	04/02/18 20:06	4165-60-0	
2-Fluorobiphenyl (S)	69	%	43-116	1	03/30/18 10:00	04/02/18 20:06	321-60-8	
p-Terphenyl-d14 (S)	67	%	33-141	1	03/30/18 10:00	04/02/18 20:06	1718-51-0	
Phenol-d5 (S)	30	%	10-110	1	03/30/18 10:00	04/02/18 20:06	4165-62-2	
2-Fluorophenol (S)	48	%	21-110	1	03/30/18 10:00	04/02/18 20:06	367-12-4	
2,4,6-Tribromophenol (S)	91	%	10-123	1	03/30/18 10:00	04/02/18 20:06	118-79-6	
2-Chlorophenol-d4 (S)	61	%	33-110	1	03/30/18 10:00	04/02/18 20:06	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	55	%	16-110	1	03/30/18 10:00	04/02/18 20:06	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 19:16	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 19:16	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 19:16	108-88-3	
Xylene (Total)	**59.6**	ug/L	3.0	1		04/02/18 19:16	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	68-153	1		04/02/18 19:16	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 19:16	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 19:16	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-05D **Lab ID: 7046598005** Collected: 03/27/18 08:40 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**3.0J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	83-32-9	
Acenaphthylene	**41.1**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	206-44-0	
Fluorene	**6.8**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	193-39-5	
2-Methylnaphthalene	**121** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 13:39	91-57-6	
Naphthalene	**544** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 13:39	91-20-3	
Phenanthrene	**1.1J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 18:18	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	45	%	35-114	1	03/30/18 10:00	04/02/18 18:18	4165-60-0	
2-Fluorobiphenyl (S)	52	%	43-116	1	03/30/18 10:00	04/02/18 18:18	321-60-8	
p-Terphenyl-d14 (S)	64	%	33-141	1	03/30/18 10:00	04/02/18 18:18	1718-51-0	
Phenol-d5 (S)	27	%	10-110	1	03/30/18 10:00	04/02/18 18:18	4165-62-2	
2-Fluorophenol (S)	37	%	21-110	1	03/30/18 10:00	04/02/18 18:18	367-12-4	
2,4,6-Tribromophenol (S)	78	%	10-123	1	03/30/18 10:00	04/02/18 18:18	118-79-6	
2-Chlorophenol-d4 (S)	53	%	33-110	1	03/30/18 10:00	04/02/18 18:18	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	44	%	16-110	1	03/30/18 10:00	04/02/18 18:18	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**2.2**	ug/L	1.0	1		04/02/18 17:35	71-43-2	
Ethylbenzene	**1.8**	ug/L	1.0	1		04/02/18 17:35	100-41-4	
Toluene	**15.0**	ug/L	1.0	1		04/02/18 17:35	108-88-3	
Xylene (Total)	**159**	ug/L	3.0	1		04/02/18 17:35	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%	68-153	1		04/02/18 17:35	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 17:35	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 17:35	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-08S **Lab ID: 7045985004** Collected: 03/20/18 13:15 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	83-32-9	
Acenaphthylene	**6.4**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	56-55-3	
Benzo(a)pyrene	**2.1J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	205-99-2	
Benzo(g,h,i)perylene	**4.5J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	206-44-0	
Fluorene	**1.3J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	86-73-7	
Indeno(1,2,3-cd)pyrene	**3.3J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	193-39-5	
2-Methylnaphthalene	**1.8J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	91-57-6	
Naphthalene	**1.3J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	91-20-3	
Phenanthrene	**2.3J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	85-01-8	
Pyrene	**1.7J**	ug/L	5.0	1	03/23/18 10:03	03/28/18 03:49	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	79	%	35-114	1	03/23/18 10:03	03/28/18 03:49	4165-60-0	
2-Fluorobiphenyl (S)	97	%	43-116	1	03/23/18 10:03	03/28/18 03:49	321-60-8	
p-Terphenyl-d14 (S)	113	%	33-141	1	03/23/18 10:03	03/28/18 03:49	1718-51-0	
Phenol-d5 (S)	32	%	10-110	1	03/23/18 10:03	03/28/18 03:49	4165-62-2	
2-Fluorophenol (S)	45	%	21-110	1	03/23/18 10:03	03/28/18 03:49	367-12-4	
2,4,6-Tribromophenol (S)	116	%	10-123	1	03/23/18 10:03	03/28/18 03:49	118-79-6	E
2-Chlorophenol-d4 (S)	71	%	33-110	1	03/23/18 10:03	03/28/18 03:49	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	68	%	16-110	1	03/23/18 10:03	03/28/18 03:49	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**0.99J**	ug/L	1.0	1		03/25/18 15:07	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 15:07	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 15:07	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 15:07	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	68-153	1		03/25/18 15:07	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		03/25/18 15:07	460-00-4	
Toluene-d8 (S)	90	%	69-124	1		03/25/18 15:07	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-08I **Lab ID: 7045985003** Collected: 03/20/18 12:25 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:51	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	54	%	35-114	1	03/23/18 10:03	03/26/18 15:51	4165-60-0	
2-Fluorobiphenyl (S)	62	%	43-116	1	03/23/18 10:03	03/26/18 15:51	321-60-8	
p-Terphenyl-d14 (S)	53	%	33-141	1	03/23/18 10:03	03/26/18 15:51	1718-51-0	
Phenol-d5 (S)	23	%	10-110	1	03/23/18 10:03	03/26/18 15:51	4165-62-2	
2-Fluorophenol (S)	32	%	21-110	1	03/23/18 10:03	03/26/18 15:51	367-12-4	
2,4,6-Tribromophenol (S)	52	%	10-123	1	03/23/18 10:03	03/26/18 15:51	118-79-6	
2-Chlorophenol-d4 (S)	53	%	33-110	1	03/23/18 10:03	03/26/18 15:51	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	55	%	16-110	1	03/23/18 10:03	03/26/18 15:51	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/25/18 15:32	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 15:32	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 15:32	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 15:32	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		03/25/18 15:32	17060-07-0	
4-Bromofluorobenzene (S)	113	%	79-124	1		03/25/18 15:32	460-00-4	
Toluene-d8 (S)	90	%	69-124	1		03/25/18 15:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-08D **Lab ID: 7045985002** Collected: 03/20/18 11:25 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 15:24	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	56	%	35-114	1	03/23/18 10:03	03/26/18 15:24	4165-60-0	
2-Fluorobiphenyl (S)	67	%	43-116	1	03/23/18 10:03	03/26/18 15:24	321-60-8	
p-Terphenyl-d14 (S)	46	%	33-141	1	03/23/18 10:03	03/26/18 15:24	1718-51-0	
Phenol-d5 (S)	27	%	10-110	1	03/23/18 10:03	03/26/18 15:24	4165-62-2	
2-Fluorophenol (S)	42	%	21-110	1	03/23/18 10:03	03/26/18 15:24	367-12-4	
2,4,6-Tribromophenol (S)	84	%	10-123	1	03/23/18 10:03	03/26/18 15:24	118-79-6	
2-Chlorophenol-d4 (S)	63	%	33-110	1	03/23/18 10:03	03/26/18 15:24	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	60	%	16-110	1	03/23/18 10:03	03/26/18 15:24	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/25/18 15:57	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 15:57	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 15:57	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 15:57	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%	68-153	1		03/25/18 15:57	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		03/25/18 15:57	460-00-4	
Toluene-d8 (S)	91	%	69-124	1		03/25/18 15:57	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-12S **Lab ID: 7045985001** Collected: 03/20/18 09:05 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 14:57	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	55	%	35-114	1	03/23/18 10:03	03/26/18 14:57	4165-60-0	
2-Fluorobiphenyl (S)	63	%	43-116	1	03/23/18 10:03	03/26/18 14:57	321-60-8	
p-Terphenyl-d14 (S)	41	%	33-141	1	03/23/18 10:03	03/26/18 14:57	1718-51-0	
Phenol-d5 (S)	25	%	10-110	1	03/23/18 10:03	03/26/18 14:57	4165-62-2	
2-Fluorophenol (S)	36	%	21-110	1	03/23/18 10:03	03/26/18 14:57	367-12-4	
2,4,6-Tribromophenol (S)	81	%	10-123	1	03/23/18 10:03	03/26/18 14:57	118-79-6	
2-Chlorophenol-d4 (S)	58	%	33-110	1	03/23/18 10:03	03/26/18 14:57	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	55	%	16-110	1	03/23/18 10:03	03/26/18 14:57	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/25/18 16:22	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 16:22	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 16:22	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 16:22	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	68-153	1		03/25/18 16:22	17060-07-0	
4-Bromofluorobenzene (S)	92	%	79-124	1		03/25/18 16:22	460-00-4	
Toluene-d8 (S)	82	%	69-124	1		03/25/18 16:22	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-13I **Lab ID: 7045985012** Collected: 03/23/18 13:40 Received: 03/23/18 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 17:15	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	71	%	35-114	1	03/26/18 13:10	03/27/18 17:15	4165-60-0	
2-Fluorobiphenyl (S)	78	%	43-116	1	03/26/18 13:10	03/27/18 17:15	321-60-8	
p-Terphenyl-d14 (S)	70	%	33-141	1	03/26/18 13:10	03/27/18 17:15	1718-51-0	
Phenol-d5 (S)	32	%	10-110	1	03/26/18 13:10	03/27/18 17:15	4165-62-2	
2-Fluorophenol (S)	47	%	21-110	1	03/26/18 13:10	03/27/18 17:15	367-12-4	
2,4,6-Tribromophenol (S)	103	%	10-123	1	03/26/18 13:10	03/27/18 17:15	118-79-6	
2-Chlorophenol-d4 (S)	72	%	33-110	1	03/26/18 13:10	03/27/18 17:15	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	70	%	16-110	1	03/26/18 13:10	03/27/18 17:15	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/26/18 10:05	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/26/18 10:05	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/26/18 10:05	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/26/18 10:05	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		03/26/18 10:05	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-124	1		03/26/18 10:05	460-00-4	
Toluene-d8 (S)	93	%	69-124	1		03/26/18 10:05	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-13D **Lab ID: 7045985011** Collected: 03/23/18 12:15 Received: 03/23/18 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**5.9**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	83-32-9	
Acenaphthylene	**11.8**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:47	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	78	%	35-114	1	03/26/18 13:10	03/27/18 16:47	4165-60-0	
2-Fluorobiphenyl (S)	81	%	43-116	1	03/26/18 13:10	03/27/18 16:47	321-60-8	
p-Terphenyl-d14 (S)	69	%	33-141	1	03/26/18 13:10	03/27/18 16:47	1718-51-0	
Phenol-d5 (S)	33	%	10-110	1	03/26/18 13:10	03/27/18 16:47	4165-62-2	
2-Fluorophenol (S)	50	%	21-110	1	03/26/18 13:10	03/27/18 16:47	367-12-4	
2,4,6-Tribromophenol (S)	94	%	10-123	1	03/26/18 13:10	03/27/18 16:47	118-79-6	
2-Chlorophenol-d4 (S)	76	%	33-110	1	03/26/18 13:10	03/27/18 16:47	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	73	%	16-110	1	03/26/18 13:10	03/27/18 16:47	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**1.0**	ug/L	1.0	1		03/26/18 10:30	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/26/18 10:30	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/26/18 10:30	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/26/18 10:30	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	68-153	1		03/26/18 10:30	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		03/26/18 10:30	460-00-4	
Toluene-d8 (S)	92	%	69-124	1		03/26/18 10:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-14I **Lab ID: 7045985005** Collected: 03/20/18 16:25 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**6.1**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	83-32-9	
Acenaphthylene	**8.5**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	206-44-0	
Fluorene	**2.1J**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	91-20-3	
Phenanthrene	**2.4J**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:19	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	65	%	35-114	1	03/23/18 10:03	03/26/18 16:19	4165-60-0	
2-Fluorobiphenyl (S)	74	%	43-116	1	03/23/18 10:03	03/26/18 16:19	321-60-8	
p-Terphenyl-d14 (S)	54	%	33-141	1	03/23/18 10:03	03/26/18 16:19	1718-51-0	
Phenol-d5 (S)	26	%	10-110	1	03/23/18 10:03	03/26/18 16:19	4165-62-2	
2-Fluorophenol (S)	43	%	21-110	1	03/23/18 10:03	03/26/18 16:19	367-12-4	
2,4,6-Tribromophenol (S)	102	%	10-123	1	03/23/18 10:03	03/26/18 16:19	118-79-6	
2-Chlorophenol-d4 (S)	69	%	33-110	1	03/23/18 10:03	03/26/18 16:19	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	65	%	16-110	1	03/23/18 10:03	03/26/18 16:19	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**2.1**	ug/L	1.0	1		03/25/18 14:42	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 14:42	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 14:42	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 14:42	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%	68-153	1		03/25/18 14:42	17060-07-0	
4-Bromofluorobenzene (S)	105	%	79-124	1		03/25/18 14:42	460-00-4	
Toluene-d8 (S)	91	%	69-124	1		03/25/18 14:42	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-15I **Lab ID: 7046598002** Collected: 03/26/18 09:55 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	83-32-9	
Acenaphthylene	**3.0J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:56	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	59	%	35-114	1	03/30/18 10:00	04/02/18 16:56	4165-60-0	
2-Fluorobiphenyl (S)	58	%	43-116	1	03/30/18 10:00	04/02/18 16:56	321-60-8	
p-Terphenyl-d14 (S)	66	%	33-141	1	03/30/18 10:00	04/02/18 16:56	1718-51-0	
Phenol-d5 (S)	27	%	10-110	1	03/30/18 10:00	04/02/18 16:56	4165-62-2	
2-Fluorophenol (S)	39	%	21-110	1	03/30/18 10:00	04/02/18 16:56	367-12-4	
2,4,6-Tribromophenol (S)	88	%	10-123	1	03/30/18 10:00	04/02/18 16:56	118-79-6	
2-Chlorophenol-d4 (S)	58	%	33-110	1	03/30/18 10:00	04/02/18 16:56	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	51	%	16-110	1	03/30/18 10:00	04/02/18 16:56	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**1.0**	ug/L	1.0	1		04/02/18 16:20	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 16:20	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 16:20	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 16:20	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 16:20	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		04/02/18 16:20	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 16:20	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-15D **Lab ID: 7046598001** Collected: 03/26/18 08:40 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 16:29	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	58	%	35-114	1	03/30/18 10:00	04/02/18 16:29	4165-60-0	
2-Fluorobiphenyl (S)	67	%	43-116	1	03/30/18 10:00	04/02/18 16:29	321-60-8	
p-Terphenyl-d14 (S)	63	%	33-141	1	03/30/18 10:00	04/02/18 16:29	1718-51-0	
Phenol-d5 (S)	31	%	10-110	1	03/30/18 10:00	04/02/18 16:29	4165-62-2	
2-Fluorophenol (S)	49	%	21-110	1	03/30/18 10:00	04/02/18 16:29	367-12-4	
2,4,6-Tribromophenol (S)	89	%	10-123	1	03/30/18 10:00	04/02/18 16:29	118-79-6	
2-Chlorophenol-d4 (S)	64	%	33-110	1	03/30/18 10:00	04/02/18 16:29	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	58	%	16-110	1	03/30/18 10:00	04/02/18 16:29	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 15:55	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 15:55	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 15:55	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 15:55	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	68-153	1		04/02/18 15:55	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-124	1		04/02/18 15:55	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 15:55	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-20S **Lab ID: 7045985007** Collected: 03/22/18 12:05 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:13	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	64	%	35-114	1	03/23/18 10:03	03/26/18 17:13	4165-60-0	
2-Fluorobiphenyl (S)	72	%	43-116	1	03/23/18 10:03	03/26/18 17:13	321-60-8	
p-Terphenyl-d14 (S)	55	%	33-141	1	03/23/18 10:03	03/26/18 17:13	1718-51-0	
Phenol-d5 (S)	25	%	10-110	1	03/23/18 10:03	03/26/18 17:13	4165-62-2	
2-Fluorophenol (S)	39	%	21-110	1	03/23/18 10:03	03/26/18 17:13	367-12-4	
2,4,6-Tribromophenol (S)	99	%	10-123	1	03/23/18 10:03	03/26/18 17:13	118-79-6	
2-Chlorophenol-d4 (S)	67	%	33-110	1	03/23/18 10:03	03/26/18 17:13	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	64	%	16-110	1	03/23/18 10:03	03/26/18 17:13	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/25/18 13:51	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 13:51	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 13:51	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 13:51	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	68-153	1		03/25/18 13:51	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		03/25/18 13:51	460-00-4	
Toluene-d8 (S)	91	%	69-124	1		03/25/18 13:51	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-20I **Lab ID: 7045985006** Collected: 03/22/18 10:40 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**9.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	83-32-9	
Acenaphthylene	**103** D	ug/L	25.0	5	03/23/18 10:03	03/27/18 22:30	208-96-8	
Anthracene	**2.8J**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	206-44-0	
Fluorene	**17.7**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	193-39-5	
2-Methylnaphthalene	**4.7J**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	91-57-6	
Naphthalene	**323** D	ug/L	25.0	5	03/23/18 10:03	03/27/18 22:30	91-20-3	
Phenanthrene	**13.8**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 16:46	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	68	%	35-114	1	03/23/18 10:03	03/26/18 16:46	4165-60-0	
2-Fluorobiphenyl (S)	83	%	43-116	1	03/23/18 10:03	03/26/18 16:46	321-60-8	
p-Terphenyl-d14 (S)	59	%	33-141	1	03/23/18 10:03	03/26/18 16:46	1718-51-0	
Phenol-d5 (S)	26	%	10-110	1	03/23/18 10:03	03/26/18 16:46	4165-62-2	
2-Fluorophenol (S)	39	%	21-110	1	03/23/18 10:03	03/26/18 16:46	367-12-4	
2,4,6-Tribromophenol (S)	109	%	10-123	1	03/23/18 10:03	03/26/18 16:46	118-79-6	E
2-Chlorophenol-d4 (S)	69	%	33-110	1	03/23/18 10:03	03/26/18 16:46	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	68	%	16-110	1	03/23/18 10:03	03/26/18 16:46	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**2.7**	ug/L	1.0	1		03/25/18 14:17	71-43-2	
Ethylbenzene	**35.5**	ug/L	1.0	1		03/25/18 14:17	100-41-4	
Toluene	**34.1**	ug/L	1.0	1		03/25/18 14:17	108-88-3	
Xylene (Total)	**161**	ug/L	3.0	1		03/25/18 14:17	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	68-153	1		03/25/18 14:17	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		03/25/18 14:17	460-00-4	
Toluene-d8 (S)	90	%	69-124	1		03/25/18 14:17	2037-26-5	

7/6/18
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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-22 **Lab ID: 7045985008** Collected: 03/22/18 13:30 Received: 03/22/18 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/23/18 10:03	03/26/18 17:40	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	60	%	35-114	1	03/23/18 10:03	03/26/18 17:40	4165-60-0	
2-Fluorobiphenyl (S)	72	%	43-116	1	03/23/18 10:03	03/26/18 17:40	321-60-8	
p-Terphenyl-d14 (S)	52	%	33-141	1	03/23/18 10:03	03/26/18 17:40	1718-51-0	
Phenol-d5 (S)	27	%	10-110	1	03/23/18 10:03	03/26/18 17:40	4165-62-2	
2-Fluorophenol (S)	41	%	21-110	1	03/23/18 10:03	03/26/18 17:40	367-12-4	
2,4,6-Tribromophenol (S)	92	%	10-123	1	03/23/18 10:03	03/26/18 17:40	118-79-6	
2-Chlorophenol-d4 (S)	67	%	33-110	1	03/23/18 10:03	03/26/18 17:40	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	63	%	16-110	1	03/23/18 10:03	03/26/18 17:40	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/25/18 13:26	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 13:26	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 13:26	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 13:26	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		03/25/18 13:26	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		03/25/18 13:26	460-00-4	
Toluene-d8 (S)	90	%	69-124	1		03/25/18 13:26	2037-26-5	

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-23 **Lab ID: 7046598003** Collected: 03/26/18 12:15 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:23	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	61	%	35-114	1	03/30/18 10:00	04/02/18 17:23	4165-60-0	
2-Fluorobiphenyl (S)	68	%	43-116	1	03/30/18 10:00	04/02/18 17:23	321-60-8	
p-Terphenyl-d14 (S)	77	%	33-141	1	03/30/18 10:00	04/02/18 17:23	1718-51-0	
Phenol-d5 (S)	28	%	10-110	1	03/30/18 10:00	04/02/18 17:23	4165-62-2	
2-Fluorophenol (S)	40	%	21-110	1	03/30/18 10:00	04/02/18 17:23	367-12-4	
2,4,6-Tribromophenol (S)	82	%	10-123	1	03/30/18 10:00	04/02/18 17:23	118-79-6	
2-Chlorophenol-d4 (S)	61	%	33-110	1	03/30/18 10:00	04/02/18 17:23	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	57	%	16-110	1	03/30/18 10:00	04/02/18 17:23	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 16:45	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 16:45	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 16:45	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 16:45	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 16:45	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 16:45	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 16:45	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-24 **Lab ID: 7046598004** Collected: 03/26/18 13:30 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 17:50	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	58	%	35-114	1	03/30/18 10:00	04/02/18 17:50	4165-60-0	
2-Fluorobiphenyl (S)	64	%	43-116	1	03/30/18 10:00	04/02/18 17:50	321-60-8	
p-Terphenyl-d14 (S)	72	%	33-141	1	03/30/18 10:00	04/02/18 17:50	1718-51-0	
Phenol-d5 (S)	32	%	10-110	1	03/30/18 10:00	04/02/18 17:50	4165-62-2	
2-Fluorophenol (S)	48	%	21-110	1	03/30/18 10:00	04/02/18 17:50	367-12-4	
2,4,6-Tribromophenol (S)	84	%	10-123	1	03/30/18 10:00	04/02/18 17:50	118-79-6	
2-Chlorophenol-d4 (S)	64	%	33-110	1	03/30/18 10:00	04/02/18 17:50	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	59	%	16-110	1	03/30/18 10:00	04/02/18 17:50	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 17:10	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 17:10	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 17:10	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 17:10	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 17:10	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 17:10	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 17:10	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: HIMW-25 **Lab ID: 7045985010** Collected: 03/23/18 09:20 Received: 03/23/18 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**1.4J**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	83-32-9	
Acenaphthylene	**16.2**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	206-44-0	
Fluorene	**1.6J**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	193-39-5	
2-Methylnaphthalene	**4.4J**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	91-57-6	
Naphthalene	**312** D	ug/L	25.0	5	03/26/18 13:10	03/28/18 12:30	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/26/18 13:10	03/27/18 16:20	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	76	%	35-114	1	03/26/18 13:10	03/27/18 16:20	4165-60-0	
2-Fluorobiphenyl (S)	73	%	43-116	1	03/26/18 13:10	03/27/18 16:20	321-60-8	
p-Terphenyl-d14 (S)	71	%	33-141	1	03/26/18 13:10	03/27/18 16:20	1718-51-0	
Phenol-d5 (S)	29	%	10-110	1	03/26/18 13:10	03/27/18 16:20	4165-62-2	
2-Fluorophenol (S)	45	%	21-110	1	03/26/18 13:10	03/27/18 16:20	367-12-4	
2,4,6-Tribromophenol (S)	91	%	10-123	1	03/26/18 13:10	03/27/18 16:20	118-79-6	
2-Chlorophenol-d4 (S)	72	%	33-110	1	03/26/18 13:10	03/27/18 16:20	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	70	%	16-110	1	03/26/18 13:10	03/27/18 16:20	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**272** D	ug/L	10.0	10		03/26/18 16:47	71-43-2	
Ethylbenzene	**2.7**	ug/L	1.0	1		03/26/18 10:55	100-41-4	
Toluene	**1.8**	ug/L	1.0	1		03/26/18 10:55	108-88-3	
Xylene (Total)	**78.3**	ug/L	3.0	1		03/26/18 10:55	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		03/26/18 10:55	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		03/26/18 10:55	460-00-4	
Toluene-d8 (S)	93	%	69-124	1		03/26/18 10:55	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-26I **Lab ID: 7046598015** Collected: 03/29/18 08:15 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:17	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	58	%	35-114	1	03/30/18 10:00	04/02/18 23:17	4165-60-0	
2-Fluorobiphenyl (S)	62	%	43-116	1	03/30/18 10:00	04/02/18 23:17	321-60-8	
p-Terphenyl-d14 (S)	50	%	33-141	1	03/30/18 10:00	04/02/18 23:17	1718-51-0	
Phenol-d5 (S)	24	%	10-110	1	03/30/18 10:00	04/02/18 23:17	4165-62-2	
2-Fluorophenol (S)	36	%	21-110	1	03/30/18 10:00	04/02/18 23:17	367-12-4	
2,4,6-Tribromophenol (S)	78	%	10-123	1	03/30/18 10:00	04/02/18 23:17	118-79-6	
2-Chlorophenol-d4 (S)	61	%	33-110	1	03/30/18 10:00	04/02/18 23:17	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	61	%	16-110	1	03/30/18 10:00	04/02/18 23:17	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 20:56	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 20:56	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 20:56	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 20:56	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 20:56	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 20:56	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 20:56	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-26D **Lab ID: 7046598012** Collected: 03/28/18 09:20 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**5.7**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	83-32-9	
Acenaphthylene	**69.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	208-96-8	
Anthracene	**1.2J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	206-44-0	
Fluorene	**16.3**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	193-39-5	
2-Methylnaphthalene	**177** D	ug/L	100	20	03/30/18 10:00	04/03/18 15:28	91-57-6	M1
Naphthalene	**891** D	ug/L	100	20	03/30/18 10:00	04/03/18 15:28	91-20-3	M1
Phenanthrene	**16.5**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 21:01	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	56	%	35-114	1	03/30/18 10:00	04/02/18 21:01	4165-60-0	
2-Fluorobiphenyl (S)	66	%	43-116	1	03/30/18 10:00	04/02/18 21:01	321-60-8	
p-Terphenyl-d14 (S)	78	%	33-141	1	03/30/18 10:00	04/02/18 21:01	1718-51-0	
Phenol-d5 (S)	29	%	10-110	1	03/30/18 10:00	04/02/18 21:01	4165-62-2	
2-Fluorophenol (S)	41	%	21-110	1	03/30/18 10:00	04/02/18 21:01	367-12-4	
2,4,6-Tribromophenol (S)	86	%	10-123	1	03/30/18 10:00	04/02/18 21:01	118-79-6	
2-Chlorophenol-d4 (S)	60	%	33-110	1	03/30/18 10:00	04/02/18 21:01	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	53	%	16-110	1	03/30/18 10:00	04/02/18 21:01	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 21:47	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 21:47	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 21:47	108-88-3	
Xylene (Total)	**65.9**	ug/L	3.0	1		04/02/18 21:47	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%	68-153	1		04/02/18 21:47	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 21:47	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 21:47	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-27S **Lab ID: 7046598013** Collected: 03/28/18 13:10 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**71.9**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	83-32-9	
Acenaphthylene	**4.7J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	208-96-8	
Anthracene	**9.7**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	53-70-3	
Fluoranthene	**2.4J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	206-44-0	
Fluorene	**37.6**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	193-39-5	
2-Methylnaphthalene	**206** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 15:55	91-57-6	
Naphthalene	**634** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 15:55	91-20-3	
Phenanthrene	**47.4**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	85-01-8	
Pyrene	**3.2J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:23	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	50	%	35-114	1	03/30/18 10:00	04/02/18 22:23	4165-60-0	
2-Fluorobiphenyl (S)	64	%	43-116	1	03/30/18 10:00	04/02/18 22:23	321-60-8	
p-Terphenyl-d14 (S)	71	%	33-141	1	03/30/18 10:00	04/02/18 22:23	1718-51-0	
Phenol-d5 (S)	25	%	10-110	1	03/30/18 10:00	04/02/18 22:23	4165-62-2	
2-Fluorophenol (S)	37	%	21-110	1	03/30/18 10:00	04/02/18 22:23	367-12-4	
2,4,6-Tribromophenol (S)	94	%	10-123	1	03/30/18 10:00	04/02/18 22:23	118-79-6	
2-Chlorophenol-d4 (S)	57	%	33-110	1	03/30/18 10:00	04/02/18 22:23	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	50	%	16-110	1	03/30/18 10:00	04/02/18 22:23	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**16.7**	ug/L	1.0	1		04/02/18 20:06	71-43-2	
Ethylbenzene	**563** D	ug/L	10.0	10		04/03/18 10:43	100-41-4	
Toluene	**24.8**	ug/L	1.0	1		04/02/18 20:06	108-88-3	
Xylene (Total)	**492** D	ug/L	30.0	10		04/03/18 10:43	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 20:06	17060-07-0	
4-Bromofluorobenzene (S)	96	%	79-124	1		04/02/18 20:06	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 20:06	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: DUP032818 (HIMW-275) **Lab ID: 7046598014** Collected: 03/28/18 12:00 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**69.3**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	83-32-9	
Acenaphthylene	**4.5J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	208-96-8	
Anthracene	**9.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	53-70-3	
Fluoranthene	**2.5J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	206-44-0	
Fluorene	**36.1**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	193-39-5	
2-Methylnaphthalene	**242** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 16:22	91-57-6	
Naphthalene	**684** D	ug/L	50.0	10	03/30/18 10:00	04/03/18 16:22	91-20-3	
Phenanthrene	**45.5**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	85-01-8	
Pyrene	**2.9J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 22:50	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	53	%	35-114	1	03/30/18 10:00	04/02/18 22:50	4165-60-0	
2-Fluorobiphenyl (S)	69	%	43-116	1	03/30/18 10:00	04/02/18 22:50	321-60-8	
p-Terphenyl-d14 (S)	73	%	33-141	1	03/30/18 10:00	04/02/18 22:50	1718-51-0	
Phenol-d5 (S)	25	%	10-110	1	03/30/18 10:00	04/02/18 22:50	4165-62-2	
2-Fluorophenol (S)	37	%	21-110	1	03/30/18 10:00	04/02/18 22:50	367-12-4	
2,4,6-Tribromophenol (S)	95	%	10-123	1	03/30/18 10:00	04/02/18 22:50	118-79-6	
2-Chlorophenol-d4 (S)	60	%	33-110	1	03/30/18 10:00	04/02/18 22:50	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	54	%	16-110	1	03/30/18 10:00	04/02/18 22:50	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**16.5**	ug/L	1.0	1		04/02/18 20:31	71-43-2	
Ethylbenzene	**560** D	ug/L	10.0	10		04/03/18 11:08	100-41-4	
Toluene	**25.4**	ug/L	1.0	1		04/02/18 20:31	108-88-3	
Xylene (Total)	**493** D	ug/L	30.0	10		04/03/18 11:08	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		04/02/18 20:31	17060-07-0	
4-Bromofluorobenzene (S)	97	%	79-124	1		04/02/18 20:31	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 20:31	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-27I **Lab ID: 7046598016** Collected: 03/29/18 11:00 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	91-20-3	
Phenanthrene	**1.1J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 23:44	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	49	%	35-114	1	03/30/18 10:00	04/02/18 23:44	4165-60-0	
2-Fluorobiphenyl (S)	57	%	43-116	1	03/30/18 10:00	04/02/18 23:44	321-60-8	
p-Terphenyl-d14 (S)	41	%	33-141	1	03/30/18 10:00	04/02/18 23:44	1718-51-0	
Phenol-d5 (S)	22	%	10-110	1	03/30/18 10:00	04/02/18 23:44	4165-62-2	
2-Fluorophenol (S)	32	%	21-110	1	03/30/18 10:00	04/02/18 23:44	367-12-4	
2,4,6-Tribromophenol (S)	85	%	10-123	1	03/30/18 10:00	04/02/18 23:44	118-79-6	
2-Chlorophenol-d4 (S)	53	%	33-110	1	03/30/18 10:00	04/02/18 23:44	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	48	%	16-110	1	03/30/18 10:00	04/02/18 23:44	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 21:22	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 21:22	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 21:22	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 21:22	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		04/02/18 21:22	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 21:22	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 21:22	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-28S **Lab ID: 7046598008** Collected: 03/27/18 14:10 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**24.7**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	83-32-9	
Acenaphthylene	**1.3J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	208-96-8	
Anthracene	**2.9J**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	206-44-0	
Fluorene	**14.2**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	193-39-5	
2-Methylnaphthalene	**22.5**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	91-57-6	
Naphthalene	**164**	ug/L	20.0	4	03/30/18 10:00	04/03/18 14:34	91-20-3	D
Phenanthrene	**15.8**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:39	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	62	%	35-114	1	03/30/18 10:00	04/02/18 19:39	4165-60-0	
2-Fluorobiphenyl (S)	68	%	43-116	1	03/30/18 10:00	04/02/18 19:39	321-60-8	
p-Terphenyl-d14 (S)	71	%	33-141	1	03/30/18 10:00	04/02/18 19:39	1718-51-0	
Phenol-d5 (S)	33	%	10-110	1	03/30/18 10:00	04/02/18 19:39	4165-62-2	
2-Fluorophenol (S)	45	%	21-110	1	03/30/18 10:00	04/02/18 19:39	367-12-4	
2,4,6-Tribromophenol (S)	96	%	10-123	1	03/30/18 10:00	04/02/18 19:39	118-79-6	
2-Chlorophenol-d4 (S)	65	%	33-110	1	03/30/18 10:00	04/02/18 19:39	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	58	%	16-110	1	03/30/18 10:00	04/02/18 19:39	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**2.4**	ug/L	1.0	1		04/02/18 18:51	71-43-2	
Ethylbenzene	**138**	ug/L	1.0	1		04/02/18 18:51	100-41-4	
Toluene	**1.8**	ug/L	1.0	1		04/02/18 18:51	108-88-3	
Xylene (Total)	**11.7**	ug/L	3.0	1		04/02/18 18:51	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 18:51	17060-07-0	
4-Bromofluorobenzene (S)	100	%	79-124	1		04/02/18 18:51	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 18:51	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
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ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: HIMW-28I **Lab ID: 7046598007** Collected: 03/27/18 12:55 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/02/18 19:12	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	64	%	35-114	1	03/30/18 10:00	04/02/18 19:12	4165-60-0	
2-Fluorobiphenyl (S)	64	%	43-116	1	03/30/18 10:00	04/02/18 19:12	321-60-8	
p-Terphenyl-d14 (S)	66	%	33-141	1	03/30/18 10:00	04/02/18 19:12	1718-51-0	
Phenol-d5 (S)	35	%	10-110	1	03/30/18 10:00	04/02/18 19:12	4165-62-2	
2-Fluorophenol (S)	48	%	21-110	1	03/30/18 10:00	04/02/18 19:12	367-12-4	
2,4,6-Tribromophenol (S)	87	%	10-123	1	03/30/18 10:00	04/02/18 19:12	118-79-6	
2-Chlorophenol-d4 (S)	65	%	33-110	1	03/30/18 10:00	04/02/18 19:12	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	58	%	16-110	1	03/30/18 10:00	04/02/18 19:12	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 18:26	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 18:26	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 18:26	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 18:26	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 18:26	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		04/02/18 18:26	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 18:26	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: TP20180322 **Lab ID: 7045985009** Collected: 03/22/18 00:00 Received: 03/22/18 15:15 Matrix: Water

7/5/18 B

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/25/18 13:01	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/25/18 13:01	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/25/18 13:01	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/25/18 13:01	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	68-153	1		03/25/18 13:01	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		03/25/18 13:01	460-00-4	
Toluene-d8 (S)	91	%	69-124	1		03/25/18 13:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Sample: TB20180323 **Lab ID: 7045985013** Collected: 03/23/18 13:40 Received: 03/23/18 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/26/18 09:40	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/26/18 09:40	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		03/26/18 09:40	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/26/18 09:40	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		03/26/18 09:40	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		03/26/18 09:40	460-00-4	
Toluene-d8 (S)	90	%	69-124	1		03/26/18 09:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: TB2018032718 **Lab ID: 7046598010** Collected: 03/27/18 14:10 Received: 03/27/18 15:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 14:40	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 14:40	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 14:40	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 14:40	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%	68-153	1		04/02/18 14:40	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		04/02/18 14:40	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 14:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: FB20180329 **Lab ID: 7046598017** Collected: 03/29/18 11:30 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV	Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	83-32-9	
Acenaphthylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	208-96-8	
Anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	120-12-7	
Benzo(a)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	56-55-3	
Benzo(a)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	50-32-8	
Benzo(b)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	205-99-2	
Benzo(g,h,i)perylene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	191-24-2	
Benzo(k)fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	207-08-9	
Chrysene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	218-01-9	
Dibenz(a,h)anthracene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	53-70-3	
Fluoranthene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	206-44-0	
Fluorene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	86-73-7	
Indeno(1,2,3-cd)pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	193-39-5	
2-Methylnaphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	91-57-6	
Naphthalene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	91-20-3	
Phenanthrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	85-01-8	
Pyrene	**<5.0**	ug/L	5.0	1	03/30/18 10:00	04/03/18 00:12	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	53	%	35-114	1	03/30/18 10:00	04/03/18 00:12	4165-60-0	
2-Fluorobiphenyl (S)	58	%	43-116	1	03/30/18 10:00	04/03/18 00:12	321-60-8	
p-Terphenyl-d14 (S)	49	%	33-141	1	03/30/18 10:00	04/03/18 00:12	1718-51-0	
Phenol-d5 (S)	20	%	10-110	1	03/30/18 10:00	04/03/18 00:12	4165-62-2	
2-Fluorophenol (S)	30	%	21-110	1	03/30/18 10:00	04/03/18 00:12	367-12-4	
2,4,6-Tribromophenol (S)	66	%	10-123	1	03/30/18 10:00	04/03/18 00:12	118-79-6	
2-Chlorophenol-d4 (S)	55	%	33-110	1	03/30/18 10:00	04/03/18 00:12	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	51	%	16-110	1	03/30/18 10:00	04/03/18 00:12	2199-69-1	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 15:05	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 15:05	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 15:05	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 15:05	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		04/02/18 15:05	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		04/02/18 15:05	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		04/02/18 15:05	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Sample: TB20180329 **Lab ID: 7046598018** Collected: 03/29/18 11:30 Received: 03/29/18 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		04/02/18 15:30	71-43-2	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/02/18 15:30	100-41-4	
Toluene	**<1.0**	ug/L	1.0	1		04/02/18 15:30	108-88-3	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/02/18 15:30	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		04/02/18 15:30	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/02/18 15:30	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		04/02/18 15:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

ATTACHMENT B

SUPPORT DOCUMENTATION

WO#:7045985

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

7045985

Page: 1 of

1934509

Section A: Project information.		Section C: Invoice Information:	
Company: AECOM	Report To: Jon Sundquist	Attention:	
Address:	Copy To: Peter Fairbanks	Company Name:	REGULATORY AGENCY
		Address:	NPDES / GROUND WATER / DRINKING WATER
Email To: JON.Sundquist@AECOM.com	Purchase Order No.:	Pace Quote Reference:	UST / RCRA / OTHER
Phone: 716-923-1207 Fax:	Project Name: National Grid Hempstead	Pace Project Manager:	Site Location STATE: NY
Requested Due Date/TAT: Standard	Project Number: 60491120.00004	Pace Profile #:	

ITEM #	Section D Required Client Information / SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION (°C)	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): BTEX 8260C Y	PAH 8270 D N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HIMW-12S	WT	G	—	—	3/20/18	0905	10	4	2			2						X	X			001
2	HIMW-08D	WT	G			3/20/18	1125		4	2			2						X	X			002
3	HIMW-08I	WT	G			3/20/18	1225		4	2			2						X	X			003
4	HIMW-08S	WT	G			3/20/18	1315		4	2			2						X	X			004
5	HIMW-14I	WT	G			3/20/18	1625		4	2			2						X	X			005
6	HIMW-20I	WT	G			3/22/18	1040	↓	4	2			2						X	X			006
7	HIMW-20S	WT	G			3/22/18	1205	10	4	2			2						X	X			007
8	HIMW-22	WT	G			3/22/18	1330	6	4	2			2						X	X			008
9	TB20180322	WT	G			3/22/18		10	2				2						X				009
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	3/22/18	1445	[signature]	3/22/18	1445				
	[signature]	3/22/18	1515	[signature]	3/22/18	1515	3.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: M Pasculi / C Friedman

SIGNATURE of SAMPLER: MP / CF

DATE Signed (MM/DD/YY): 3/22/18

Sample Condition Upon Receipt

Pace Analytical

Client Name: AECOM

Projec: WO#:7045985

PM: JSA Due Date: 04/05/18

CLIENT: AECOM-B

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: 0.0

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 3.5 3.1 Cooler Temperature Corrected (°C): 3.5 3.1 Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☑ N/A, water sample) Date and Initials of person examining contents: CAS -2278

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL WT OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Initial when completed: / Lot # of added preservative: / Date/Time preservative added:
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
KI starch test strips Lot #				Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #				
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted. Date/Time:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT All relevant fields must be

WO#: 7045985
PM: JSA Due Date: 04/05/18
CLIENT: AECOM-B

Section A Required Client Information:
Company: AECoM
Address:
Email To: JON.SUNDQUIST@AECOM.com
Phone: 716-923-1207 Fax:
Requested Due Date/TAT: standard

Section B Required Project Information:
Report To:
Copy To: Peter.Fairbanks@AECOM.com
Purchase Order No.:
Project Name: National Grid Hempstead
Project Number: 60411920.00004

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

Regulatory: NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER

Site Location STATE: NY

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): BTEX 8260C — N; PAH 8270D — N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX 8260C	PAH 8270D	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HIMW-25	WT	G			3/23/18	920	10	4	2			2					X	X		010
2	HIMW-~~03D~~ 13D	WT	G			3/23/18	1215	10	4	2			2					X	X		011
3	HIMW-13I	WT	G			3/23/18	1340	10	4	2			2					X	X		012
4																					
5																					
6	TB20180323	WT	G			3/23/18	1340	10	2				2					X			013
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	3/23/18	1445	[signature]	3/23/18	1445				
	[signature]	3/23/18	1545	[signature]	3/23/18	15:45	[illegible]	Y	Y	Y

SAMPLER NAME AND SAMPLE SIGNATURE
PRINT Name of SAMPLER: M Duscoli / C Friedman
SIGNATURE of SAMPLER: MD / CF
DATE Signed (MM/DD/YY): 3/23/18

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month ... not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical

Sample Condition Upon Rec[illegible]

WO#: 7045985

PM: JSA Due Date: 04/05/18
CLIENT: AECOM-B

Client Name: AECOM Proje

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Temperature Blank Present: ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: 0

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 5.1 Cooler Temperature Corrected (°C): 5.1

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☒ N/A, water sample)

Date and Initials of person examining contents: ar 3-23-18

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1
Chain of Custody Filled Out:	☑Yes	☐No		2
Chain of Custody Relinquished:	☑Yes	☐No		3
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4
Samples Arrived within Hold Time:	☑Yes	☐No		5
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6
Rush Turn Around Time Requested:	☐Yes	☑No		7
Sufficient Volume: (Triple volume provided for MS/MSD	☑Yes	☐No		8
Correct Containers Used:	☑Yes	☐No		9
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix: SL WT OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Sample #
				Initial when completed / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination	☐Yes	☐No	☑N/A	14
KI starch test strips Lot #				
Residual chlorine strips Lot #				Positive for Res Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

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PROJECT NARRATIVE

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Method: EPA 8270D
Description: 8270 MSSV
Client: AECOM
Date: March 28, 2018

General Information:
11 samples were analyzed for EPA 8270D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 60679

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- HIMW-08S (Lab ID: 7045985004)
  - 2,4,6-Tribromophenol (S)
- HIMW-20I (Lab ID: 7045985006)
  - 2,4,6-Tribromophenol (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Method: EPA 8270D
Description: 8270 MSSV
Client: AECOM
Date: March 28, 2018

Analyte Comments:

QC Batch: 60679

E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- MSD (Lab ID: 278193)
  - 2,4,6-Tribromophenol (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: NATIONAL GRID HEMPSTEAD 3/20
Pace Project No.: 7045985

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: AECOM
Date: March 28, 2018

General Information:
13 samples were analyzed for EPA 8260C/5030C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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CHAIN-OF-CUSTODY / Analytical Request Dc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be complete

WO# : 7046598

7046598

Section A
Required Client Information:

Company: AECOM
Address:
Email To: Jon Sundquist@AECOM.COM
Phone: Fax:
Requested Due Date/TAT: Standard

Section B
Required Project Information:

Report To: Jon Sundquist
Copy To: Peter Fairbanks
Purchase Order No
Project Name: National Grid Hempstead
Project Number: 60411920

Section C
Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: NY

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): N | N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	BTEX 8260C	PAH 8270D	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HIMW-15D	WT	G			3/26/18	840	9	4	2			2						X	X		001
2	HIMW-15I	WT	G			3/26/18	955	14	4	2			2						X	X		002
3	HIMW-23	↓	↓			3/26/18	1215	14	4	2			2						X	X		003
4	HIMW-24	↓	↓			3/26/18	1330	15	4	2			2						X	X		004
5	HIMW-05D	↓	↓			3/27/18	840	9	4	2			2						X	X		005
6	HIMW-05I	↓	↓			3/27/18	950	10	4	2			2						X	X		006
7	HIMW-28I	↓	↓			3/27/18	1255	11	4	2			2						X	X		007
8	HIMW-28S	↓	↓			3/27/18	1410	11	4	2			2						X	X		008
9	DUP-032718	↓	↓			3/27/18	1200		4	2			2						X	X		009
10	TB20180327718	↓	↓			3/27/18	1410		2				2						X			010
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Megan Daniel / AECOM	3/27/18	1500	[signature]	3/27/18	1500				
	[signature]	3/27/18	1540	[signature]	3/27/18	15:40	1.6/2.0			
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: M. Dascoli / C. Friedman

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/27/18

"Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days."

Pace Analytical

Sample Condition Upon Receipt

WO#: 7046598

PM: JSA Due Date: 04/10/18
CLIENT: AECOM-B

Client Name: AECOM

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other

Tracking #: —

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals Intact: ☑ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: (Wet) Blue None

Thermometer Used: TH09 Correction Factor: 0

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 16.20 Cooler Temperature Corrected (°C): 16.20 Date/Time 5035A kits placed in freezer _____

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☒ N/A, water sample) Date and Initials of person examining contents: JZ 5/2/18

Did samples originate in a quarantine zone within the United States: AL, AR CA, FL, GA, ID, LA, MS, NC NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples orignale from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL (WT) OIL				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide)	☐Yes	☐No	☑N/A	
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water), Per Method, VOA pH is checked after analysis				Initial when completed. / Lot # of added preservative / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14
KI starch test strips Lot #				
Residual chlorine strips Lot #				Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

* PM (Project Manager) review is documented electronically in LIMS.

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CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be con

WO# : 7046598

7046593

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: AECOM	Report To: Jon Sundqvist	Attention:
Address:	Copy To: Peter Fairbanks	Company Name:
		Address:
Email To: Jon.Sundqvist@aecom.com	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: National Grid Hempstead	Pace Project Manager:
Requested Due Date/TAT: Standard	Project Number: 60441120	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NY

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: BTEX 8260	PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HIMW-05S	WT	G			3/28/18	300	10	4	2			2					X	X		011
2	HIMW-26D						920	10	4	2			2					X	X		012
3	HIMW-26D MS/MSD						930	10	8	4			4					X	X		1
4	HIMW-27S						1310	10	4	2			2					X	X		013
5	DUP032818					3/28/18	1200	10	4	2			2					X	X		014
6	HIMW-26I					3/29/18	815	10	4	2			2					X	X		015
7	HIMW-27I					3/29/18	1100	10	4	2			2					X	X		016
8	FB20180329						1130		4	2			2					X	X		017
9	TB20180329						1130		2				2					X			018
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		3/29/18	1405		3/29/18	1405				
		3/29/18	1450		3/29/18	1450	5.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MDascoli + C Friedman

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 3/29/18

Pace Analytical

Sample Condition Upon Receipt

WO#: 7046598

Client Name: AECOM

PM: JSA Due Date: 04/10/18

CLIENT: AECOM-B

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☒ Yes ☐ No Seals intact: ☒ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: 0.0

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 5.6 Cooler Temperature Corrected (°C): 5.6

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☒ N/A, water sample)

Date and Initials of person examining contents: JK 3/29/18

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☒Yes	☐No		1.
Chain of Custody Filled Out:	☒Yes	☐No		2.
Chain of Custody Relinquished:	☒Yes	☐No		3.
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☒Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☒No		6.
Rush Turn Around Time Requested:	☐Yes	☒No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☒Yes	☐No		8.
Correct Containers Used:	☒Yes	☐No		9.
-Pace Containers Used:	☒Yes	☐No		
Containers Intact:	☒Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☒N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix SL WT OIL	☒Yes	☐No		12.
All containers needing preservation have been checked. pH paper Lot #	☐Yes	☐No	☒N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☒N/A	Sample #
				Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	☒N/A	14. Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☒No	☐N/A	15.
Trip Blank Present:	☒Yes	☒No	☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☒No	☒N/A	
Pace Trip Blank Lot # (if applicable)				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

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PROJECT NARRATIVE

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Method: EPA 8260C/5030C
Description: 8260C Volatile Organics
Client: AECOM
Date: April 04, 2018

General Information:
18 samples were analyzed for EPA 8260C/5030C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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PROJECT NARRATIVE

Project: National Grid Hempstead Site-
Pace Project No.: 7046598

Method: EPA 8270D
Description: 8270 MSSV
Client: AECOM
Date: April 04, 2018

General Information:
16 samples were analyzed for EPA 8270D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 61410

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7046598012

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 281613)
  - 2-Methylnaphthalene
  - Naphthalene
- MSD (Lab ID: 281614)
  - 2-Methylnaphthalene
  - Naphthalene

Additional Comments:

REPORT OF LABORATORY ANALYSIS

APPENDIX B

OXYGEN SYSTEM OPERATION & MAINTENANCE MEASUREMENTS

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	1/26/2018
Time:	12:30
Weather:	Sunny
Outdoor Temperature:	~41° F
Inside Trailer Temperature:	~70° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours: 20,311.0

Feed Air Pressure *: _____ (psi)

Cycle Pressure *: _____ (psi)

Oxygen Receiver Pressure *: _____ (psi)

Oxygen Purity: _____ (percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *: _____ (psi)

(readings below are made from control panel)

Delivery Air: _____ (psi)

Element Outlet Temperature: _____ (oF)

Running Hours: 23,681 (hours)

Loading Hours: 15,499 (hours)

* maximum reading during loading cycle

O_2 Injection System #1

Injection Bank 1				Injection Bank 2				Injection Bank 3			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-1	95.5	OFF	OFF	OW-1-5S	67.3	OFF	OFF	OW-1-9D	88.5	OFF	OFF
OW-1-2	96.5	OFF	OFF	OW-1-6S	67.0	OFF	OFF	OW-1-10D	87.2	OFF	OFF
OW-1-3	96.3	OFF	OFF	OW-1-7S	66.9	OFF	OFF	OW-1-11D	86.1	OFF	OFF
OW-1-4	95.0	OFF	OFF	OW-1-8S	66.7	OFF	OFF	OW-1-12D	85.3	OFF	OFF
OW-1-5D	93.9	OFF	OFF	OW-1-9S	66.0	OFF	OFF	OW-1-13D	84.7	OFF	OFF
OW-1-6D	92.4	OFF	OFF	OW-1-10S	54.6	OFF	OFF	OW-1-14D	84.1	OFF	OFF
OW-1-7D	91.1	OFF	OFF	OW-1-11S	54.1	OFF	OFF	OW-1-15D	83.3	OFF	OFF
OW-1-8D	89.6	OFF	OFF	OW-1-12S	53.6	OFF	OFF	OW-1-16D	82.5	OFF	OFF

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #1 and Bank #3 were set at 3 minutes.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/26/2018

O_2 Injection System #1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-13S	53.1	OFF	OFF	OW-1-17D	79.5	OFF	OFF	OW-1-21S	49.3	OFF	OFF
OW-1-14S	52.7	OFF	OFF	OW-1-18D	78.3	OFF	OFF	OW-1-22S	49.3	OFF	OFF
OW-1-15S	52.2	OFF	OFF	OW-1-19D	78.9	OFF	OFF	OW-1-23S	48.8	OFF	OFF
OW-1-16SR	51.8	OFF	OFF	OW-1-20D	79.5	OFF	OFF	OW-1-24S	48.4	OFF	OFF
OW-1-17S	50.7	OFF	OFF	OW-1-21D	79.5	OFF	OFF	OW-1-25S	48.8	OFF	OFF
OW-1-18S	50.2	OFF	OFF	OW-1-22D	79.5	OFF	OFF	OW-1-26SR	48.3	OFF	OFF
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	OFF	OFF	OW-1-27S	48.3	OFF	OFF
OW-1-20S	49.3	OFF	OFF	OW-1-24D	78.2	OFF	OFF	OW-1-28S	48.3	OFF	OFF

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #5 were set at 3 minutes.

O_2 Injection System #1

Injection Bank 7				Injection Bank 8				Injection Bank 9			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-25D	78.1	OFF	OFF	OW-1-29S	48.5	OFF	OFF	OW-1-33D	83.2	OFF	OFF
OW-1-26D	78.1	OFF	OFF	OW-1-30S	48.8	OFF	OFF	OW-1-34D	84.5	OFF	OFF
OW-1-27D	77.9	OFF	OFF	OW-1-31S	49.3	OFF	OFF	OW-1-35D	85.0	OFF	OFF
OW-1-28D	78.0	OFF	OFF	OW-1-32S	49.3	OFF	OFF	OW-1-36D	85.0	OFF	OFF
OW-1-29D	78.4	OFF	OFF	OW-1-33S	49.7	OFF	OFF	OW-1-37D	84.0	OFF	OFF
OW-1-30D	79.0	OFF	OFF	OW-1-34S	50.1	OFF	OFF	OW-1-38D	82.0	OFF	OFF
OW-1-31D	80.5	OFF	OFF	OW-1-35S	50.3	OFF	OFF	OW-1-39D	78.0	OFF	OFF
OW-1-32D	81.6	OFF	OFF	OW-1-36S	50.3	OFF	OFF	OW-1-40D	76.0	OFF	OFF

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

Date: 1/26/2018

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

O_2 Injection System #1

Injection Bank 10				Injection Bank 11				Injection Bank 12			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-37S	50.5	OFF	OFF	OW-1-41D	73.6	OFF	OFF	OW-1-43	67.4	OFF	OFF
OW-1-38S	50.6	OFF	OFF	OW-1-42D	71.0	OFF	OFF	OW-1-44	66.6	OFF	OFF
OW-1-39S	50.7	OFF	OFF	OW-1-45	65.7	OFF	OFF	OW-1-51R	60.6	OFF	OFF
OW-1-40S	51.1	OFF	OFF	OW-1-46	64.3	OFF	OFF	OW-1-52	59.3	OFF	OFF
OW-1-41S	51.5	OFF	OFF	OW-1-47	63.4	OFF	OFF	OW-1-53	60.0	OFF	OFF
OW-1-42S	51.3	OFF	OFF	OW-1-48	62.5	OFF	OFF	OW-1-54	60.0	OFF	OFF
				OW-1-49	61.5	OFF	OFF				
				OW-1-50	61.0	OFF	OFF				

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection time at Bank #11 was set at 6 minutes.

O_2 Injection System #1

Monitoring Points Log				Monitoring Points Log				Monitoring Points Log	
ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DO (mg/L) Middle
MP-1-1D	30.58		0	MP-1-5	30.45	5.22	0	MP-1-1D	5.81
MP-1-1S	30.65	5.02	0	MP-1-6	22.71	4.02	0	MP-1-2D	5.59
MP-1-2D	24.95		0	MP-1-7	25.99	3.14	0	MP-1-3D	6.15
MP-1-2S	24.91	6.11	0	MP-1-8	27.52	2.11	0	MP-1-4D	3.29
MP-1-3D	22.18		0.3						
MP-1-3S	22.11	5.50	0.4						
MP-1-4D	25.99		0						
MP-1-4S	25.97	3.29	0.2						

Comments: DO readings were collected at the following depths: MP-1-1S (66 feet), MP-1-1D (~45 feet), MP-1-2S (46 feet), MP-1-2D (~41 feet), MP-1-3S (49 feet), MP-1-3D (~40 feet), MP-1-4S (53 feet), MP-1-4D (~35 feet), MP-1-5 (78 feet), MP-1-6 (61 feet), MP-1-7 (64 feet) and MP-1-8 (58 feet).

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/26/2018

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes ____ No X
   * Unload system, wait until Delivery Air Pressure is less than 9 psi
2) Oil Level with system unloaded
   Low (red) ____ Normal (green) ____ High (orange) ____
3) Oil added Yes ____ No X
4) Oil changed Yes ____ No X
5) Oil filter changed Yes ____ No X
6) Air filter Changed Yes ____ No X
7) Oil separator changed Yes ____ No X
8) Terminal strips checked Yes ____ No X

AS-80 O_2 Generator

1) Profiler changed Yes ____ No X
2) Coalescing changed Yes ____ No X

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
   Yes X No ____
2) Abnormal conditions observed (e.g. vandalism) ____
3) Other major activities completed ____
4) Supplies needed ____
5) Visitors ____

Record routine activities such as any alarm/shutdowns, sampling, maintenance, material transported off-site, oil/filter/gasket and/or any other abnormal operating conditions:

1-22-18 Met with Bill Ryan and the crew from Industrial Sales & Service Corp (ISSC) and revised issues with compressor. ISSC installed the new control cable and the new terminal strips. Restarted compressor and system ran well. Found new problem with the low level pressure switch not shutting down the compressor. Left system off while National Grid made a decision on compressor.

1-26-18 Collected readings from monitoring points while system remains off awaiting repairs.

12-27-17 Performed monitoring of all site wells at this system. Sprayed all locks with WD-40.

OW-1-19S remains off due to leaking line.

Electric Meter # 96-934-323 tied into Pole #4

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	2/26/2018
Time:	14:15
Weather:	Clear
Outdoor Temperature:	~45° F
Inside Trailer Temperature:	~70° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	20,446.0	
Feed Air Pressure *	85	(psi)
Cycle Pressure *	65	(psi)
Oxygen Receiver Pressure *	95	(psi)
Oxygen Purity	46.0	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	135	(psi)
(readings below are made from control panel)		
Delivery Air	128	(psi)
Element Outlet Temperature	191	(oF)
Running Hours	107	(hours)
Loading Hours	82	(hours)

* maximum reading during loading cycle

O_2 Injection System #1

Injection Bank 1				Injection Bank 2				Injection Bank 3			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-1	95.5	35	32	OW-1-5S	67.3	40	19	OW-1-9D	88.5	40	30
OW-1-2	96.5	30	21	OW-1-6S	67.0	45	18	OW-1-10D	87.2	40	25
OW-1-3	96.3	30	32	OW-1-7S	66.9	30	18	OW-1-11D	86.1	30	32
OW-1-4	95.0	25	30	OW-1-8S	66.7	35	18	OW-1-12D	85.3	30	30
OW-1-5D	93.9	25	32	OW-1-9S	66.0	25	17	OW-1-13D	84.7	25	30
OW-1-6D	92.4	30	32	OW-1-10S	54.6	30	19	OW-1-14D	84.1	30	30
OW-1-7D	91.1	35	30	OW-1-11S	54.1	30	15	OW-1-15D	83.3	30	28
OW-1-8D	89.6	30	31	OW-1-12S	53.6	30	16	OW-1-16D	82.5	30	16

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #1 and Bank #3 were set at 3 minutes.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/26/2018

O_2 Injection System #1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-13S	53.1	30	15	OW-1-17D	79.5	35	16	OW-1-21S	49.3	30	13
OW-1-14S	52.7	30	14	OW-1-18D	78.3	35	27	OW-1-22S	49.3	35	13
OW-1-15S	52.2	35	13	OW-1-19D	78.9	30	28	OW-1-23S	48.8	45	13
OW-1-16SR	51.8	35	30	OW-1-20D	79.5	30	29	OW-1-24S	48.4	40	13
OW-1-17S	50.7	30	27	OW-1-21D	79.5	30	27	OW-1-25S	48.8	40	13
OW-1-18S	50.2	30	14	OW-1-22D	79.5	30	26	OW-1-26SR	48.3	40	14
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	26	OW-1-27S	48.3	30	14
OW-1-20S	49.3	35	10	OW-1-24D	78.2	30	28	OW-1-28S	48.3	35	13

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #5 were set at 3 minutes.

O_2 Injection System #1

Injection Bank 7				Injection Bank 8				Injection Bank 9			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-25D	78.1	30	28	OW-1-29S	48.5	35	13	OW-1-33D	83.2	30	30
OW-1-26D	78.1	30	27	OW-1-30S	48.8	35	14	OW-1-34D	84.5	30	29
OW-1-27D	77.9	30	29	OW-1-31S	49.3	35	13	OW-1-35D	85.0	25	28
OW-1-28D	78.0	30	28	OW-1-32S	49.3	40	13	OW-1-36D	85.0	20	29
OW-1-29D	78.4	30	27	OW-1-33S	49.7	30	13	OW-1-37D	84.0	30	29
OW-1-30D	79.0	30	37	OW-1-34S	50.1	30	13	OW-1-38D	82.0	30	30
OW-1-31D	80.5	30	21	OW-1-35S	50.3	35	14	OW-1-39D	78.0	30	28
OW-1-32D	81.6	30	32	OW-1-36S	50.3	30	14	OW-1-40D	76.0	35	27

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

Date: 2/26/2018

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

O_2 Injection System #1

Injection Bank 10				Injection Bank 11				Injection Bank 12			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-37S	50.5	30	13	OW-1-41D	73.6	30	22	OW-1-43	67.4	30	22
OW-1-38S	50.6	30	14	OW-1-42D	71.0	30	20	OW-1-44	66.6	30	21
OW-1-39S	50.7	25	15	OW-1-45	65.7	40	20	OW-1-51R	60.6	30	18
OW-1-40S	51.1	30	14	OW-1-46	64.3	45	19	OW-1-52	59.3	35	17
OW-1-41S	51.5	25	14	OW-1-47	63.4	40	18	OW-1-53	60.0	30	17
OW-1-42S	51.3	35	14	OW-1-48	62.5	30	19	OW-1-54	60.0	30	16
				OW-1-49	61.5	30	18				
				OW-1-50	61.0	30	18				

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection time at Bank #11 was set at 6 minutes.

O_2 Injection System #1

Monitoring Points Log				Monitoring Points Log				Monitoring Points Log	
ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DO (mg/L) Middle
MP-1-1D	30.25		0.1	MP-1-5	30.04	9.29	0	MP-1-1D	6.32
MP-1-1S	30.31	11.46	0.3	MP-1-6	22.31	3.18	0	MP-1-2D	23.77
MP-1-2D	24.57		0.1	MP-1-7	25.52	6.57	0	MP-1-3D	11.10
MP-1-2S	24.81	24.92	0.1	MP-1-8	27.05	3.39	0	MP-1-4D	16.92
MP-1-3D	22.79		0.2						
MP-1-3S	22.75	8.25	0						
MP-1-4D	25.50		0						
MP-1-4S	25.54	15.27	0						

Comments: DO readings were collected at the following depths: MP-1-1S (66 feet), MP-1-1D (~45 feet), MP-1-2S (46 feet), MP-1-2D (~41 feet), MP-1-3S (49 feet), MP-1-3D (~40 feet), MP-1-4S (53 feet), MP-1-4D (~35 feet), MP-1-5 (78 feet), MP-1-6 (61 feet), MP-1-7 (64 feet) and MP-1-8 (58 feet).

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/26/2018

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes ____ No X
   * Unload system, wait until Delivery Air Pressure is less than 9 psi
2) Oil Level with system unloaded
   Low (red) ____ Normal (green) X High (orange) ____
3) Oil added Yes ____ No X
4) Oil changed Yes ____ No X
5) Oil filter changed Yes ____ No X
6) Air filter Changed Yes ____ No X
7) Oil separator changed Yes ____ No X
8) Terminal strips checked Yes ____ No X

AS-80 O_2 Generator

1) Profiler changed Yes ____ No X
2) Coalescing changed Yes ____ No X

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
   Yes X No ____
2) Abnormal conditions observed (e.g. vandalism) ____
3) Other major activities completed ____
4) Supplies needed ____
5) Visitors ____

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Record routine activities such as any alarm/shutdowns, sampling, maintenance, material transported off-site, oil/filter/gasket and/or any other abnormal operating conditions:

2-5-18 Locked out and tagged out main disconnected to the compressor. Pulled main feed wires back to panel and disconnected conduits. Drained all cooling oil from the system. Took apart all vales, gauges, and controls that can be utilized on other air compressors. Removed compressor from shed as well as floor supports in anticipation of new unit arriving the next day.

2-6-18 Met with National Grid & Matrx at the site to install new compressor. Installed new unit in place and secured to building. Connected new fittings and hoses on the compressor. Installed conversion, changed all pressure relief valves, and installed new regulated on oxygen generator. Installed existing electrical conduits back to compressor and rewired unit. Found no power on the high leg power feeds. Investigated issue and found melted buss bar in the panel. Left system off until new panel parts could be installed.

2-12-18 Started installing a new 3-phase breaker panel. Took apart existing panel and disconnected and labeled each breaker and wires. Installed new panel and installed new wires to replace damaged wires. Started to reinstall breakers and determined additional parts were needed.

2-15-18 Finished installing new breaker panel at the site. Extended wire to fit into new panel. Installed new circuit breakers as needed. Installed new grounding for panel and boxes. Moved surge protector and 220-volt receptacle to fit new wiring and controls. Secured wires, panel, and all feeds. Cleaned out shed of debris and washed floor of shed.

2-21-18 Met with Matrix to start up new compressor. Went through all controls on the new compressor and tried to start unit. Found unit running very slow. Investigated issue and found compressor wired for 460 volts. Changed compressor wiring to be 230 volt 3 phase and started system. Let system cycle and adjusted controls as needed. Found two (2) bad gauges that need to be replaced. Found oxygen purity low at 42%. Determined that when old compressor over heated it sent the cooling out through the system and it contaminated the solenoid valves and sieve materials. Need to return to fix solenoid vales. Left system running.

2-22-18 Responded to alarm condition at the site. Found system running but booster pump motor was not turning on. Found bad wiring on the booster pump and made a temporary fix to keep system running. Need to install a new base to the contactor.

2-26-18 Found system running upon arrival. Took all routine system reading and made adjustments to flow rate. Found oxygen generator running very loud. Drained oil build up in the generator water bowls. Restarted system and left running.

2-28-18 Found system running upon arrival. Shut down system to make repairs. Removed inline check valves and found clogged with silt, debris, and oil. Took apart solenoid valves and found chambers soaked with oil and silt buildup. Cleaned all parts with degreaser and rebuilt units as needed. Took apart filter bowls and cleaned out oil buildup. Took apart regulator valve and flushed out to clean. Installed new circuit block to the booster pump motor control. Restated system and tested all components and found to be working correctly. Wiped down all equipment and cleaned inside shed. Restarted system and left running.

OW-1-19S remains off due to leaking line.

Electric Meter # 96-934-323 tied into Pole #4

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	3/29/2018
Time:	11:00
Weather:	Cloudy
Outdoor Temperature:	~46° F
Inside Trailer Temperature:	~70° F
Performed By:	Mike Ryan

O_2 Generator (AirSep)

Hours	21,081.0	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	65	(psi)
Oxygen Receiver Pressure *	105	(psi)
Oxygen Purity	79.5	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	135	(psi)
(readings below are made from control panel)		
Delivery Air	118	(psi)
Element Outlet Temperature	187	(oF)
Running Hours	750	(hours)
Loading Hours	578	(hours)

* maximum reading during loading cycle

O_2 Injection System #1

Injection Bank 1				Injection Bank 2				Injection Bank 3			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-1	95.5	30	29	OW-1-5S	67.3	30	17	OW-1-9D	88.5	30	28
OW-1-2	96.5	40	19	OW-1-6S	67.0	30	18	OW-1-10D	87.2	40	25
OW-1-3	96.3	35	29	OW-1-7S	66.9	30	18	OW-1-11D	86.1	45	26
OW-1-4	95.0	30	28	OW-1-8S	66.7	35	17	OW-1-12D	85.3	40	27
OW-1-5D	93.9	40	29	OW-1-9S	66.0	30	16	OW-1-13D	84.7	30	28
OW-1-6D	92.4	30	30	OW-1-10S	54.6	40	15	OW-1-14D	84.1	30	30
OW-1-7D	91.1	30	30	OW-1-11S	54.1	30	14	OW-1-15D	83.3	30	27
OW-1-8D	89.6	30	28	OW-1-12S	53.6	30	15	OW-1-16D	82.5	30	16

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #1 and Bank #3 were set at 3 minutes.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/29/2018

O_2 Injection System #1

Injection Bank 4				Injection Bank 5				Injection Bank 6			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-13S	53.1	35	12	OW-1-17D	79.5	25	15	OW-1-21S	49.3	30	12
OW-1-14S	52.7	40	13	OW-1-18D	78.3	35	23	OW-1-22S	49.3	30	13
OW-1-15S	52.2	30	12	OW-1-19D	78.9	30	25	OW-1-23S	48.8	45	13
OW-1-16SR	51.8	30	25	OW-1-20D	79.5	20	26	OW-1-24S	48.4	40	12
OW-1-17S	50.7	40	24	OW-1-21D	79.5	30	26	OW-1-25S	48.8	40	12
OW-1-18S	50.2	30	10	OW-1-22D	79.5	30	25	OW-1-26SR	48.3	35	11
OW-1-19S	49.7	OFF	OFF	OW-1-23D	78.7	30	24	OW-1-27S	48.3	30	12
OW-1-20S	49.3	30	8	OW-1-24D	78.2	30	27	OW-1-28S	48.3	40	12

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection times at Bank #5 were set at 3 minutes.

O_2 Injection System #1

Injection Bank 7				Injection Bank 8				Injection Bank 9			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-25D	78.1	35	27	OW-1-29S	48.5	30	13	OW-1-33D	83.2	30	27
OW-1-26D	78.1	45	25	OW-1-30S	48.8	40	12	OW-1-34D	84.5	30	27
OW-1-27D	77.9	40	28	OW-1-31S	49.3	25	13	OW-1-35D	85.0	30	28
OW-1-28D	78.0	40	27	OW-1-32S	49.3	25	11	OW-1-36D	85.0	35	27
OW-1-29D	78.4	40	25	OW-1-33S	49.7	30	12	OW-1-37D	84.0	30	28
OW-1-30D	79.0	30	28	OW-1-34S	50.1	35	12	OW-1-38D	82.0	30	26
OW-1-31D	80.5	30	27	OW-1-35S	50.3	30	12	OW-1-39D	78.0	35	27
OW-1-32D	81.6	30	29	OW-1-36S	50.3	30	12	OW-1-40D	76.0	30	25

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

Date: 3/29/2018

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

O_2 Injection System #1

Injection Bank 10				Injection Bank 11				Injection Bank 12			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	psi
OW-1-37S	50.5	30	11	OW-1-41D	73.6	30	21	OW-1-43	67.4	30	18
OW-1-38S	50.6	30	12	OW-1-42D	71.0	45	20	OW-1-44	66.6	30	18
OW-1-39S	50.7	35	13	OW-1-45	65.7	45	17	OW-1-51R	60.6	40	17
OW-1-40S	51.1	30	13	OW-1-46	64.3	30	17	OW-1-52	59.3	30	16
OW-1-41S	51.5	30	14	OW-1-47	63.4	30	16	OW-1-53	60.0	35	17
OW-1-42S	51.3	30	12	OW-1-48	62.5	30	17	OW-1-54	60.0	30	16
				OW-1-49	61.5	35	16				
				OW-1-50	61.0	40	15				

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection time at Bank #11 was set at 6 minutes.

O_2 Injection System #1

Monitoring Points Log				Monitoring Points Log				Monitoring Points Log	
ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DTW	DO (mg/L) Bottom	PID (ppm)	ID	DO (mg/L) Middle
MP-1-1D	28.69		0	MP-1-5	28.49	11.67	0	MP-1-1D	13.97
MP-1-1S	28.77	15.69	0	MP-1-6	20.86	6.37	0	MP-1-2D	40.82
MP-1-2D	23.34		0.3	MP-1-7	24.15	8.52	0	MP-1-3D	16.59
MP-1-2S	23.10	19.60	0	MP-1-8	25.68	4.43	0	MP-1-4D	24.75
MP-1-3D	21.22		0.1						
MP-1-3S	21.35	12.62	0.2						
MP-1-4D	24.13		0						
MP-1-4S	24.15	28.30	0.2						

Comments: DO readings were collected at the following depths: MP-1-1S (66 feet), MP-1-1D (~45 feet), MP-1-2S (46 feet), MP-1-2D (~41 feet), MP-1-3S (49 feet), MP-1-3D (~40 feet), MP-1-4S (53 feet), MP-1-4D (~35 feet), MP-1-5 (78 feet), MP-1-6 (61 feet), MP-1-7 (64 feet) and MP-1-8 (58 feet).

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/29/2018

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes X No
   * Unload system, wait until Delivery Air Pressure is less than 9 psi
2) Oil Level with system unloaded
   Low (red) X Normal (green) High (orange)
3) Oil added Yes X No
4) Oil changed Yes No X
5) Oil filter changed Yes No X
6) Air filter Changed Yes No X
7) Oil separator changed Yes No X
8) Terminal strips checked Yes X No

AS-80 O_2 Generator

1) Profiler changed Yes No X
2) Coalescing changed Yes No X

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
   Yes X No
2) Abnormal conditions observed (e.g. vandalism)
3) Other major activities completed
4) Supplies needed
5) Visitors

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #1

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Record routine activities such as any alarm/shutdowns, sampling, maintenance, material transported off-site, oil/filter/gasket and/or any other abnormal operating conditions:

3-4-18 Responded to alarm condition at the site. Found equipment shut down due to a power outage and compressor not restarting. Cleared alarm and restarted compressor. Mike to notify Matrix of issue since new compressor was recently installed.

3-12-18 Went to site to check on System #1. Found system operational upon arrival. Found puddle of oil under air compressor. Shut down system to investigate and found oil canister covered in oil. Wiped down motor and oil canister and tightened up all flanges, nuts, bolts, and any fittings found with cooling canister. Add oil and restarted the system. Check auto drains and found each working properly. Check belt tension on booster pump and greased fitting on motor. Took apart main water knock out bowl and cleaned dirt and mud build up from unit. Repaired minor leaks found in check valves and flow meters. Wiped down shed and cleaned floor.

3-29-18 Found system running upon arrival. Found large puddle of oil under compressor. Shut down system and found oil coving motor and controls. Wiped down all equipment and found flange on top of canister leaking. Took apart flange and cleaned end and O-rings. Reinstalled flange and bolted tightly. Wiped down all equipment and cleaned inside shed. Restarted system and left running.

OW-1-19S remains off due to leaking line.

Electric Meter # 96-934-323 tied into Pole #4

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	1/24/2018
Time:	11:30
Weather:	Sunny
Outdoor Temperature:	~41° F
Inside Trailer Temperature:	~70° F
Performed By:	Mike Ryan

O2 Generator (AirSep)

Hours	40,624	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	95	(psi)
Oxygen Purity	79	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	100	(psi)
(readings below are made from control panel)		
Delivery Air	105	(psi)
Element Outlet Temperature	169	(^{o}F)
Running Hours	46,146	(hours)
Loading Hours	40,636	(hours)

* maximum reading during loading cycle

O_2 Injection System #2

Injection Bank A				Injection Bank B				Injection Bank C			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-2	90.2'	30	30	OW-2-9S	75'	30	20	OW-2-10D	97.2'	30	30
OW-2-3	94.3'	40	29	OW-2-10S	75'	40	32	OW-2-11D	100.8'	30	30
OW-2-4	94.7'	35	30	OW-2-11S	76.5'	30	27	OW-2-12	94'	35	21
OW-2-5	95.3'	35	28	OW-2-13S	75'	45	20	OW-2-13D	97'	30	21
OW-2-6	95.7'	35	28	OW-2-15S	75'	40	19	OW-2-14	96.4'	30	27
OW-2-7	96'	30	27	OW-2-16S	75.5'	30	20	OW-2-15D	94.6'	45	30
OW-2-8	96.3'	30	30	OW-2-18S	74.5'	30	21	OW-2-16D	94.1'	45	30
OW-2-9D	96.7'	30	30	OW-2-20S	79'	30	22	OW-2-17	95'	40	30

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/24/2018

O_2 Injection System #2

Injection Bank D				Injection Bank E				Injection Bank F			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-18D	95.5'	30	28	OW-2-22S	76'	45	22	OW-2-26D	95'	35	30
OW-2-19	96.1'	35	29	OW-2-24S	77.8'	40	20	OW-2-27	93.5'	45	29
OW-2-20D	96.6'	45	30	OW-2-26S	74'	35	21	OW-2-28D	92.1'	45	30
OW-2-21	96.6'	25	29	OW-2-28S	76'	30	22	OW-2-29	92.2'	50	31
OW-2-22D	96.3'	30	28	OW-2-30S	67.8'	30	23	OW-2-30D	88'	35	32
OW-2-23	97.2'	30	30	OW-2-34	71'	30	17	OW-2-31	86'	30	30
OW-2-24D	97'	35	30	OW-2-35	69.2'	35	17	OW-2-32	84'	30	28
OW-2-25	96'	30	27	OW-2-36	64.8'	30	22	OW-2-33	82'	30	30

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection banks D & E are turned off.

O_2 Injection System #2

Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	30	21	OW-2-45	61.1'	30	20	MP-2-1	33.47	21.62	0
OW-2-38	62.1'	30	23	OW-2-46	61'	25	20	MP-2-2	34.80	25.29	0
OW-2-39	60'	30	22	OW-2-47	60.5'	30	20	MP-2-3S	34.64	23.12	0.1
OW-2-40	61.7'	30	25					MP-2-3D	34.79	25.00	0.3
OW-2-41	61.7'	30	23					MP-2-4	23.35	19.81	0
OW-2-42	61.6'	30	21					MP-2-5	21.54	20.11	0
OW-2-43	61.4'	35	24								
OW-2-44R	60.6'	35	23								

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 1/24/2018

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes X No
   * Unload system, wait until Delivery Air Pressure is less than 9 psi
2) Oil Level with system unloaded
   Low (red) Normal (green) X High (orange)
3) Oil added Yes No X
4) Oil changed Yes No X
5) Oil filter changed Yes No X
6) Air filter Changed Yes No X
7) Oil separator cleaned Yes No X
8) Terminal strips checked Yes X No

AS-80 O_2 Generator

1) Prefilter changed Yes No X
2) Coalescing changed Yes No X

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
   Yes X No
2) Abnormal conditions observed (e.g. vandalism)
3) Other major activities completed
4) Supplies needed
5) Visitors

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Record routine activities such as any alarm/shutdowns, sampling, maintenance, material transported off-site, oil/filter/gasket and/or any other abnormal operating conditions:

1-2-18 Found system operational upon arrival. Activated each bank manually to start checking for leaks in the hoses due to dry rotting of the hose. Cut back six (6) hoses and added extension to replace bad section to check valves. Found auto drain for dryer unit switching on and off constantly. Removed valve and found plunger not closing all the way. Adjusted spring and applied white grease to shaft of plunger. Reinstalled and tested for proper function. Restarted system and left running.

1-10-18 Found system operational upon arrival. Continued to make repairs to dry rotted hoses by cutting out bad section and replacing with new hose to the check valves.

1-24-18 Found system operational upon arrival. Found booster pump not functioning properly. Inspected pump and determined that tip seals need to be replaced. Checked auto drains and found clear and operating properly. Wiped down all equipment and cleaned up debris and leaves around shed. Continued to make repairs to dry rotted hoses by cutting out bad section and replacing with new hose to the check valves. Restarted system and left system running.

1-25-18 Found system operational upon arrival. Shut down system and removed boster pump from wall. Opened pump and removed old tip seals from unit and replaced with new seals. Repiped pump into system and restarted system to test pump. Pump cycled properly and no leaks in piping were found. Continued to make repairs to dry rotted hoses by cutting out bad section and replacing with new hose to the check valves. Restarted system and left system running.

1-26-18 Found system operational upon arrival. Took readings from monitoring points. Continued to make repairs to dry rotted hoses by cutting out bad section and replacing with new hose to the check valves. Cleaned up leaves around shed and took away in trash bags. Restarted system and left system running.

1-29-18 Found system operational upon arrival. Check oil level in air compressor and found good. Check each auto drain and found working properly. Finished working on dry rotted hoses by cutting out bad sections and replacing with new hose to the check valves. Adjusted flow rate from booster pump into the high pressure tank. Left system running.

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 98 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

Electric Meter # 96-929-544 tied into Pole #3

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	2/26/2018
Time:	10:45
Weather:	Clear
Outdoor Temperature:	~45° F
Inside Trailer Temperature:	~65° F
Performed By:	Mike Ryan

O2 Generator (AirSep)

Hours	41,198	
Feed Air Pressure *	85	(psi)
Cycle Pressure *	65	(psi)
Oxygen Receiver Pressure *	110	(psi)
Oxygen Purity	88.5	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	95	(psi)
(readings below are made from control panel)		
Delivery Air	100	(psi)
Element Outlet Temperature	172	(^{o}F)
Running Hours	46,917	(hours)
Loading Hours	41,225	(hours)

* maximum reading during loading cycle

O_2 Injection System #2

Injection Bank A				Injection Bank B				Injection Bank C			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-2	90.2'	35	30	OW-2-9S	75'	30	20	OW-2-10D	97.2'	35	30
OW-2-3	94.3'	40	29	OW-2-10S	75'	30	32	OW-2-11D	100.8'	30	33
OW-2-4	94.7'	40	31	OW-2-11S	76.5'	30	25	OW-2-12	94'	30	21
OW-2-5	95.3'	35	31	OW-2-13S	75'	35	21	OW-2-13D	97'	30	36
OW-2-6	95.7'	30	30	OW-2-15S	75'	35	22	OW-2-14	96.4'	35	30
OW-2-7	96'	30	31	OW-2-16S	75.5'	25	22	OW-2-15D	94.6'	40	30
OW-2-8	96.3'	30	32	OW-2-18S	74.5'	30	21	OW-2-16D	94.1'	30	32
OW-2-9D	96.7'	30	29	OW-2-20S	79'	30	23	OW-2-17	95'	35	29

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/26/2018

O_2 Injection System #2

Injection Bank D				Injection Bank E				Injection Bank F			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-18D	95.5'	30	30	OW-2-22S	76'	30	22	OW-2-26D	95'	30	30
OW-2-19	96.1'	35	30	OW-2-24S	77.8'	30	25	OW-2-27	93.5'	35	32
OW-2-20D	96.6'	45	31	OW-2-26S	74'	30	23	OW-2-28D	92.1'	35	30
OW-2-21	96.6'	40	30	OW-2-28S	76'	30	21	OW-2-29	92.2'	40	28
OW-2-22D	96.3'	35	29	OW-2-30S	67.8'	30	20	OW-2-30D	88'	40	27
OW-2-23	97.2'	30	28	OW-2-34	71'	30	21	OW-2-31	86'	30	28
OW-2-24D	97'	30	30	OW-2-35	69.2'	30	22	OW-2-32	84'	25	30
OW-2-25	96'	35	32	OW-2-36	64.8'	30	20	OW-2-33	82'	30	33

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection banks D & E are turned off.

O_2 Injection System #2

Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	30	24	OW-2-45	61.1'	30	21	MP-2-1	33.11	26.14	0
OW-2-38	62.1'	30	23	OW-2-46	61'	30	22	MP-2-2	34.43	25.97	0
OW-2-39	60'	40	21	OW-2-47	60.5'	25	22	MP-2-3S	34.27	31.11	0.2
OW-2-40	61.7'	40	20					MP-2-3D	34.44	30.23	0.3
OW-2-41	61.7'	30	21					MP-2-4	22.95	21.79	0
OW-2-42	61.6'	30	20					MP-2-5	21.12	19.95	0
OW-2-43	61.4'	35	22								
OW-2-44R	60.6'	30	19								

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 2/26/2018

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes X No
   * Unload system, wait until Delivery Air Pressure is less than 9 psi
2) Oil Level with system unloaded
   Low (red) X Normal (green) High (orange)
3) Oil added Yes X No
4) Oil changed Yes No X
5) Oil filter changed Yes No X
6) Air filter Changed Yes No X
7) Oil separator cleaned Yes No X
8) Terminal strips checked Yes No X

AS-80 O_2 Generator

1) Prefilter changed Yes No X
2) Coalescing changed Yes No X

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
   Yes X No
2) Abnormal conditions observed (e.g. vandalism)
3) Other major activities completed
4) Supplies needed
5) Visitors

Record routine activities such as any alarm/shutdowns, sampling, maintenance, material transported off-site, oil/filter/gasket and/or any other abnormal operating conditions:

2-26-18 Found system operational upon arrival. Check oil level in air compressor and added to bring to correct level. Check each auto drain and found working properly. Adjusted all controls and flow levels. Wiped down all equipment and cleaned up debris and leaves around shed. Restarted system and left system running.

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 98 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

Electric Meter # 96-929-544 tied into Pole #3

Action Items:

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date:	3/30/2018
Time:	13:30
Weather:	Rain
Outdoor Temperature:	~48° F
Inside Trailer Temperature:	~75° F
Performed By:	Mike Ryan

O2 Generator (AirSep)

Hours	41,811	
Feed Air Pressure *	100	(psi)
Cycle Pressure *	70	(psi)
Oxygen Receiver Pressure *	105	(psi)
Oxygen Purity	89.5	(percent)

* maximum reading during loading cycle

Compressor (Kaesar Rotary Screw)

Compressor Tank *	105	(psi)
(readings below are made from control panel)		
Delivery Air	95	(psi)
Element Outlet Temperature	172	(^{o}F)
Running Hours	47,584	(hours)
Loading Hours	41,841	(hours)

* maximum reading during loading cycle

O_2 Injection System #2

Injection Bank A				Injection Bank B				Injection Bank C			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-2	90.2'	30	28	OW-2-9S	75'	25	20	OW-2-10D	97.2'	30	27
OW-2-3	94.3'	30	27	OW-2-10S	75'	35	19	OW-2-11D	100.8'	35	31
OW-2-4	94.7'	40	31	OW-2-11S	76.5'	30	20	OW-2-12	94'	35	21
OW-2-5	95.3'	30	29	OW-2-13S	75'	30	19	OW-2-13D	97'	35	20
OW-2-6	95.7'	30	29	OW-2-15S	75'	30	17	OW-2-14	96.4'	40	25
OW-2-7	96'	30	28	OW-2-16S	75.5'	35	19	OW-2-15D	94.6'	45	26
OW-2-8	96.3'	30	29	OW-2-18S	74.5'	30	19	OW-2-16D	94.1'	30	26
OW-2-9D	96.7'	30	29	OW-2-20S	79'	40	18	OW-2-17	95'	30	29

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/30/2018

O_2 Injection System #2

Injection Bank D				Injection Bank E				Injection Bank F			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	Depth	scfh	scfh
OW-2-18D	95.5'	40	28	OW-2-22S	76'	30	19	OW-2-26D	95'	40	28
OW-2-19	96.1'	35	29	OW-2-24S	77.8'	30	21	OW-2-27	93.5'	40	27
OW-2-20D	96.6'	40	26	OW-2-26S	74'	30	18	OW-2-28D	92.1'	30	25
OW-2-21	96.6'	35	28	OW-2-28S	76'	30	20	OW-2-29	92.2'	30	28
OW-2-22D	96.3'	30	26	OW-2-30S	67.8'	30	17	OW-2-30D	88'	30	26
OW-2-23	97.2'	30	27	OW-2-34	71'	25	19	OW-2-31	86'	45	25
OW-2-24D	97'	40	28	OW-2-35	69.2'	30	22	OW-2-32	84'	40	24
OW-2-25	96'	30	29	OW-2-36	64.8'	25	20	OW-2-33	82'	30	27

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings. Injection banks D & E are turned off.

O_2 Injection System #2

Injection Bank G				Injection Bank H				Monitoring Points Log			
ID	Depth	scfh	psi	ID	Depth	scfh	psi	ID	DTW	DO (mg/L) Bottom	PID (ppm)
OW-2-37	62.8'	35	21	OW-2-45	61.1'	30	21	MP-2-1	31.51	18.95	0
OW-2-38	62.1'	30	22	OW-2-46	61'	30	19	MP-2-2	32.85	32.10	0
OW-2-39	60'	30	19	OW-2-47	60.5'	30	19	MP-2-3S	32.76	31.46	0
OW-2-40	61.7'	40	20					MP-2-3D	32.89	32.90	0.4
OW-2-41	61.7'	30	20					MP-2-4	21.47	29.71	0.1
OW-2-42	61.6'	30	20					MP-2-5	20.96	19.66	0
OW-2-43	61.4'	30	19								
OW-2-44R	60.6'	30	19								

Comments: All injection point flows were adjusted to the target flow rate of ~30 scfh provided that the pressure reading was no greater than the pressures provided in the hydrostatic tables prepared by URS Corporation after collecting readings.

OXYGEN INJECTION OPERATION MAINTENANCE LOG SHEET

SYSTEM #2

Hempstead Intersection Street
Former MGP Site
Nassau County, New York

Date: 3/30/2018

OPERATIONAL NOTES

GA5 Air Compressor

1) Oil Level Checked with system unloaded* Yes X No
   * Unload system, wait until Delivery Air Pressure is less than 9 psi
2) Oil Level with system unloaded
   Low (red) Normal (green) X High (orange)
3) Oil added Yes No X
4) Oil changed Yes No X
5) Oil filter changed Yes No X
6) Air filter Changed Yes No X
7) Oil separator cleaned Yes No X
8) Terminal strips checked Yes X No

AS-80 O_2 Generator

1) Prefilter changed Yes No X
2) Coalescing changed Yes No X

GENERAL SYSTEM NOTES

Trailer

1) Performed general housekeeping (i.e. sweep, collect trash inside and out, etc.)
   Yes X No
2) Abnormal conditions observed (e.g. vandalism)
3) Other major activities completed
4) Supplies needed
5) Visitors

Record routine activities such as any alarm/shutdowns, sampling, maintenance, material transported off-site, oil/filter/gasket and/or any other abnormal operating conditions:

3-30-18 Found system operational upon arrival. Check oil level in air compressor and found at correct level. Check each auto drain and cleaned sludge buildup off floats to allow auto drains to work properly. Adjusted all controls and flow levels. Wiped down all equipment and cleaned up debris and leaves around shed. Restarted system and left system running.

PID was checked with 100 ppm isobutylene prior to calibration and unit was reading 98 ppm. Zeroed unit with fresh air and was reading 0.0 ppm. Calibrated with 100 ppm isobutylene and reading was 100 ppm.

Electric Meter # 96-929-544 tied into Pole #3

Action Items: